

CONFIDENTIAL

Projects for competitive delivery at PR24





Contents

This assessment is structured as follows

Section	Contents
Executive summary	<ul style="list-style-type: none">• Introduction and context• Key messages• Assessment outcome• Delivery timescales
Methodologies	<ul style="list-style-type: none">• DPC eligibility assessment
Assessments for competitive delivery	<ul style="list-style-type: none">• Colchester re-use• Continuous water quality monitoring• AMP8 internal transfers<ul style="list-style-type: none">• Grafham to Bury St. Edmunds transfer• Bradenham transfer• Strategic catchments• Storm and retention tanks
Appendices	<ul style="list-style-type: none">• Appendix 1: Initial assessment

CONFIDENTIAL



Executive summary



Introduction and context

AWS' emerging business plan has been reviewed to identify candidate projects with the potential to be delivered and financed by third parties selected through a competitive procurement process.

Anglian water's capital programme for AMP8 is significantly larger than for prior periods, driven principally by the requirements of its WRMP, DWMP and the WINEP.

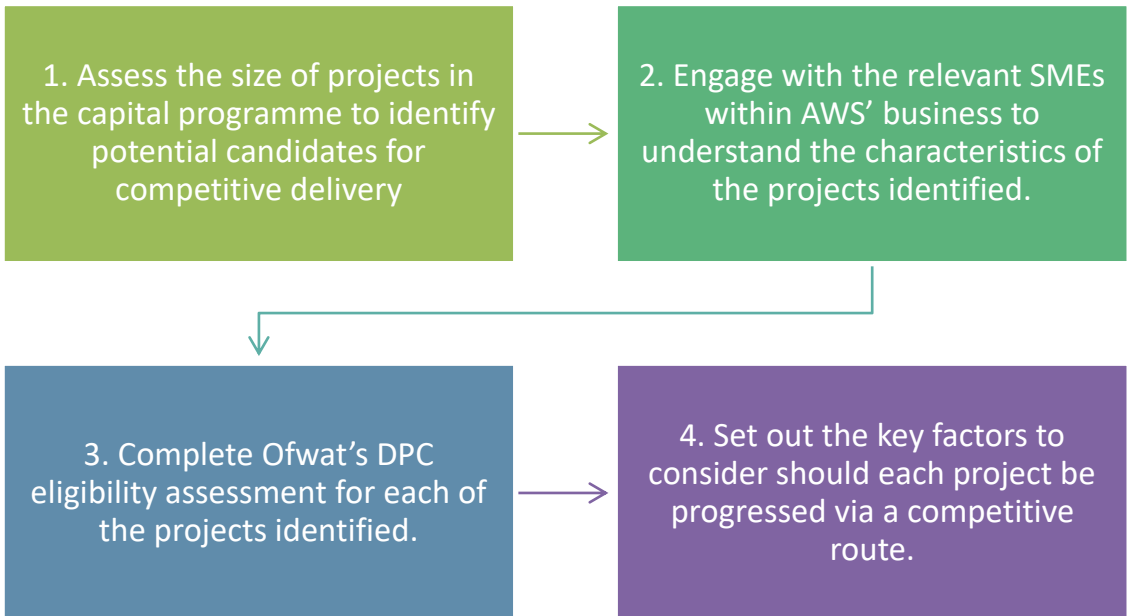
Within the programme exists several large, individual projects likely to satisfy Ofwat's DPC size test (>£200m whole life totex) and therefore be considered 'DPC by default'.

The programme also includes several large programmes of smaller assets which, when considered in aggregate, may surpass the size threshold.

Following the steps set out to the right, this assessment applies Ofwat's regulatory tests to the projects and programmes identified to assess their eligibility for competitive delivery under Ofwat's Direct Procurement for Customers model.

The business plan and capital cost estimates were assessed before they were finalised and remains subject to refinement. The project details and costs included may be amended as the business plan is finalised.

High-level methodology



Key messages

The assessment of the investment programme has identified one project that is suitable for DPC:

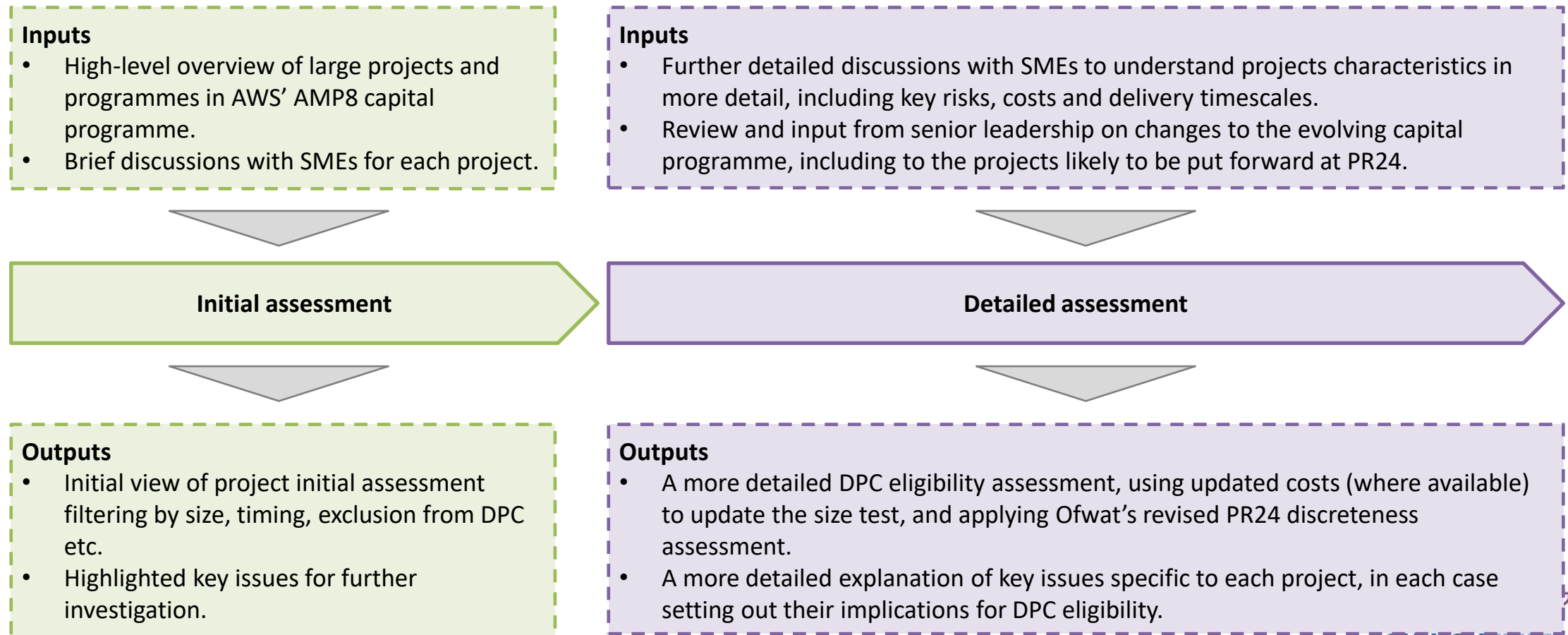
- **Colchester re-use** project is a single, large asset with new technology and a clearly defined need and use case. It is considered suitable for delivery by a market provider.

Other projects shortlisted considered have been assessed as ineligible for DPC:

- The **AMP8 internal transfer** programme involves complex construction interfaces and significant operational complexity as part of AWS' network.
- The **Grafham to Bury St. Edmunds transfer** has a complex use case, interfacing with AWS' RAPID projects and facilitating a temporary water transfer. These arrangements are likely to be difficult to accommodate under DPC.
- The **Bradenham transfer** is required within timescales that are likely to be difficult to achieve under DPC, and is part of a wider, expanding network with complex operational interdependencies.
- **Strategic catchment solutions** are not well defined, and delivery will require a significant amount of stakeholder buy-in and co-ordination. At this nascent stage of development, a clear DPC package of works is hard to define.
- Whilst the programme for **storm and retention tanks** is large, siting and consenting processes will mean that assets are delivered iteratively over time. In this context, a clear package of DPC works is hard to define.
- The size of the **Continuous River Water Quality Monitoring** programme (across AMP8 and AMP9), coupled with the monitoring assets' separation from AWS' network make this programme a strong candidate for delivery by an external party.

Development of this assessment

The assessment of projects for competitive delivery has been undertaken alongside the development of the PR24 Business Plan. It commenced with a high-level initial assessment of likely candidates. Then a detailed evaluation of DPC eligibility, applied in line with Ofwat's methodology for PR24 was undertaken.



Assessment outcome

Of the projects considered in the detailed eligibility assessment, two have been identified as eligible for delivery through DPC at PR24. The remainder have been discounted on the basis of technical discreteness.

Project	Eligibility for competition	Factors for consideration as projects are further developed
Colchester re-use	DPC eligible	<ul style="list-style-type: none"> In order to achieve AWS' desired in service date of 2030, it will be necessary to commence development activities in the remainder of AMP7. Consideration should be given to how the earlier-delivered transfer and pilot plant can be integrated with the DPC-delivered assets.
Continuous water quality monitoring	Not DPC eligible	<ul style="list-style-type: none"> The nature of the works may be better suited to a tender/delivery model that allows AWS to work with a supplier through the planning and consenting stage. Ofwat guidance issued in July to regulatory directors confirmed that schemes / programmes such as this are not DPC suitable. Delivery to timescales will require the accelerated procurement of a delivery partner. Monitoring requirements and parameters should continued to be tracked to ensure a clearly defined scope.
Grafham to Bury St. Edmunds transfer	Not DPC eligible	<ul style="list-style-type: none"> N/A – Uncertainty around the future use case of the asset and the potential need for short-lived but complex commercial trading arrangements between three Appointees mean this project is not DPC eligible.
Bradenham transfer	Not DPC eligible	<ul style="list-style-type: none"> N/A – Delivery timescales and interdependencies with the network mean this asset it not eligible for DPC
Strategic catchments	Not DPC eligible	<ul style="list-style-type: none"> N/A – Novel solutions, complex stakeholder engagement and funding requirements mean these projects are not DPC eligible.
Storm and retention tanks	Not DPC eligible	<ul style="list-style-type: none"> N/A – Complex siting and network interfaces mean these projects are not eligible for DPC.

Development / procurement
Construction
Desired In Service Date
Required in Service Date
DPC suitable
Not eligible for DPC
WRMP adaptive pathway

Delivery timescales for projects identified

The timeline below illustrates the time available for the development and procurement of the projects identified as likely or potential candidates for DPC, taking account of construction timescales if delivered via DPC. Exact schedules will need to be confirmed. Critically, for several of the projects identified, development activities will need to begin in the final years of AMP7.

AMP	7			8			9					
Project \ Year	24	25	26	27	28	29	30	31	32	33	34	
Colchester re-use	c.18 months project development		c.18 month procurement process ¹		c.3 year construction period.			DISD 31/03		RISD 31/03		
CRWQM	Project development & procurement potential to begin in AMP7		10 year rollout to 2035 (asset siting, planning and consenting likely to be completed concurrently with delivery)									
Grafham to Bury St. Edmunds Transfer	c.24 months project development and procurement process ¹		c.3 year construction period.			DISD 31/03	RISD 31/03					
Bradenham	c.18 months project development & procurement			c. 3-5 year construction period			DISD 31/03					
Strategic catchments	c.5 year programme to deliver across AMP8 (solution design, asset siting, planning and consenting likely to be completed concurrently with delivery.											
Storm and retention tanks	Project development & procurement potential to begin in AMP7		10 year programme to 2035 (asset siting, planning and consenting likely to be completed concurrently with delivery)									

¹ An ideal DPC procurement process timeline would allow 24 months. Here the time allowed has been shortened to reflect the time available.

CONFIDENTIAL



DPC eligibility assessment methodology



DPC eligibility assessment methodology

The following sub-sections set out the methodology for the assessment of AWS' PR24 capital programme:

	Title	Contents
1	Development of DPC assessment methodology	A summary of how the DPC assessment methodology was developed for the purpose of this assessment.
2	DPC eligibility assessment methodology flow chart	Chart showing the order in which the steps of the methodology are applied and demonstrates the progression from initial to detailed assessment.
3	Size test	Detail of how the size and three discreteness tests (programme scalability, construction and O&M risk), application and assessment templates.
4	Discreteness test	

Development of the DPC eligibility assessment methodology

The methodology developed reflects Ofwat’s updated PR24 assessment criteria. It expands upon each stage and defines steps that are applied to assess whether projects are eligible for DPC.

Ofwat’s PR24 DPC eligibility assessment criteria¹ are the foundation of this assessment methodology. Companies are required to:

- Identify all schemes that are over £200m whole life totex; and
- Assess the extent to which these schemes are discrete, using Ofwat’s updated technical guidance.

To fulfil these criteria, Ofwat has set out eligibility criteria and the tests to be applied, as below:

Criteria	Test
Size	<ul style="list-style-type: none">• Whole life totex >£200m.
Discreteness	<ul style="list-style-type: none">• Programme scalability• Construction risk• Operation and maintenance risk

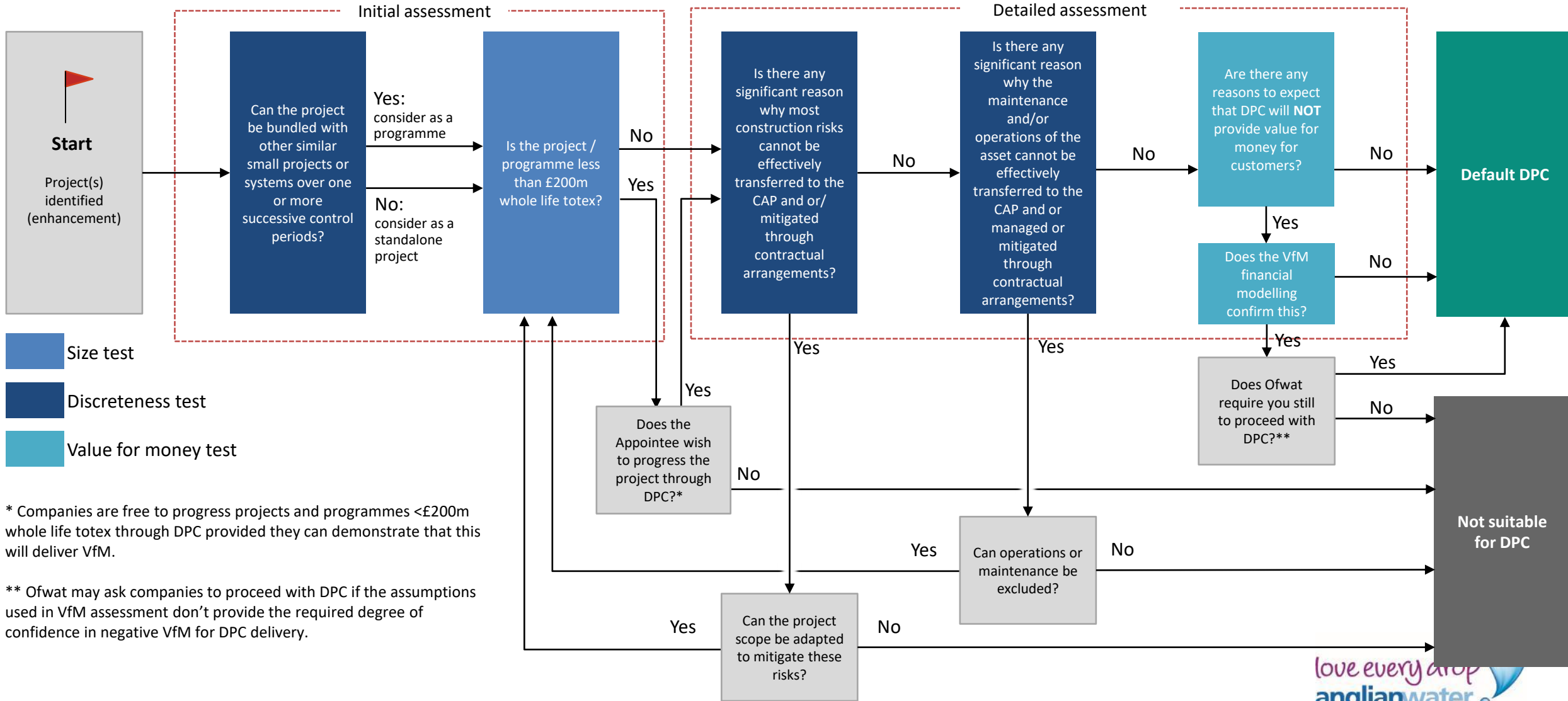
1 – Ofwat (April 2023) [Direct Procurement for Customers - Technical discreteness guidance - Ofwat](#)

The following steps have been taken to develop a methodology for the identification of projects for DPC:

- a) Create a logical order for the application of each of Ofwat’s tests.**
- b) Define a detailed method of application for each test:**
 - E.g. defining the terms of assessment (e.g. the meaning of “whole life totex”) and steps to apply at each stage.
- c) Establish other factors for consideration in the application of each test:**
 - E.g. Defining assumptions, considering other relevant issues not otherwise considered in Ofwat’s guidance.
- d) Define the implications of a positive or negative outcome from each stage of the assessment:**
 - E.g. proceed to the next stage / return to previous stage / end assessment

The methodology is set out across the following slides in this section.

DPC eligibility assessment methodology flow chart



* Companies are free to progress projects and programmes <£200m whole life totex through DPC provided they can demonstrate that this will deliver VfM.

** Ofwat may ask companies to proceed with DPC if the assumptions used in VfM assessment don't provide the required degree of confidence in negative VfM for DPC delivery.

Size test

Test	Is the whole life totex of the project or programme >£200m?
------	---

Yes

Whole life totex of the project (or programme or bundle of similar projects) exceeds £200m threshold.

The project is suitable for DPC and a discreteness test should be performed

- It is expected that companies should consider bundling schemes under the program scalability discreteness test, even when individual projects are over £200m to provide even more cost-effective solutions.

No

Whole life totex of the project (or programme or bundle of similar projects) does not exceed £200m threshold.

The project may not be suitable for DPC, however

- It will be necessary to check if the projects or assets in questions cannot be amalgamated to form a programme with a whole life totex >£200m.
- The companies still may proceed with DPC if they believe that the project is discrete and it's delivering through DPC will bring value for customers or if they believe that project costs could exceed £200m after refinement of the estimation.

Method of application:

- Consider all relevant components of whole life totex when performing the calculation.
 - Initial capex
 - Opex
 - Renewal capex (ongoing, and major renewals)
 - Asset life (defined by the asset(s) which represent the majority of project capex).
- All costs should be presented in real terms.
- Per Ofwat's final methodology, all costs in the business plan data tables, commentary and narrative should be presented in the 2022/23 price base*.

Whole life totex = initial capex + (annual opex × asset life) + renewal capex

Factors to consider:

- The project costs for all schemes were developed using Anglian's C55 cost estimation tool. The development of project cost estimates was not part of the scope of this report and the methodology and assurance of that is covered in other supporting documents to the business plan.
- Have all assets' useful economic lives (UEL) been defined consistently?
- It will be useful to maintain a summary view of the relative costs associated with assets which comprise a packaged programme, so that the impact on the size threshold can be easily understood if one asset is removed (in the application of the subsequent tests).
- Have any relevant projects below £200m whole life totex been considered, where relevant?
- See the programme scalability slide for discussion on packaging for the purpose of the size test.

* Ofwat (2022) PR24 Final Methodology Appendix 9 Setting Expenditure Allowances, pg.85

Discreteness test 1: Programme scalability

Test For individual projects or assets, is the sum of such systems or similar small projects proposed by a water company over one or more successive control period such that the whole life totex for all those projects or assets combined into a programme is less than £200m?

Yes

Combined projects and/or assets in proposed programme do not meet the whole life totex threshold for consideration for DPC

The project or programme may not be suitable for delivery through DPC.

- It will be necessary to demonstrate why the projects or assets in questions cannot be amalgamated to form a programme with a whole life totex >£200m.
- Conversely, if the preference is to pursue DPC, it will be necessary to provide a business case setting out why the project is discrete and why DPC will deliver value for money for customers.

No

Either single project or combined projects and/or assets in proposed programme meet the whole life totex threshold for consideration for DPC

The project is considered “DPC by default”.

- Consider whether the scope could be further expanded to include any additional assets or works.
- The assessment should proceed to the second discreteness test.

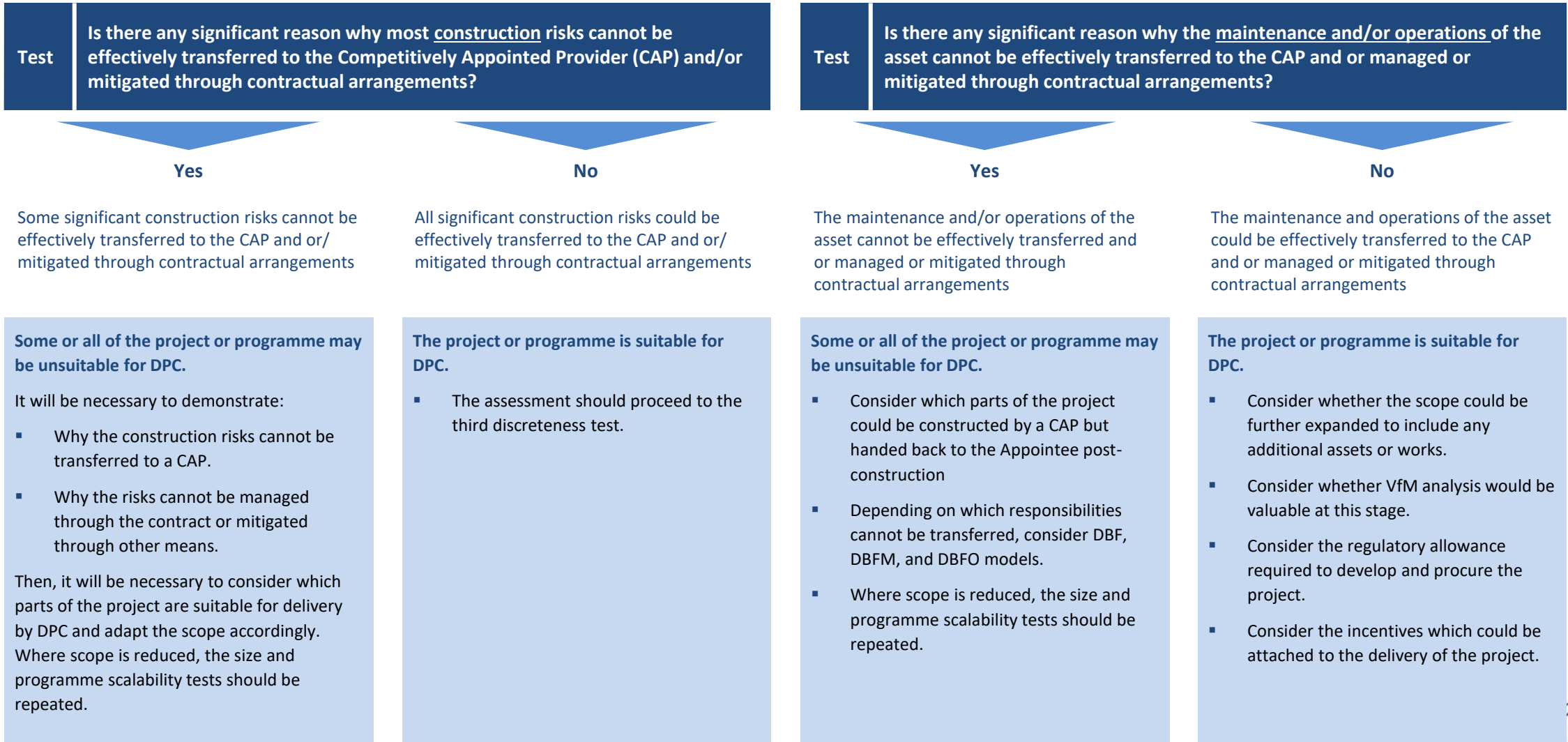
Method of application:

1. Develop a comprehensive view of the capital programme across AMP8 and successive price controls.
2. Identify any large discrete projects which exceed the size threshold. Consider whether other local assets or works could be combined to form a larger programme.
 - For example, could a transfer be included in a package alongside a new treatment works?
3. Review smaller projects to identify opportunities to create DPC works packages. Consider on what basis assets or works could be amalgamated to form programmes of works, for example:
 - Preferred solution – e.g. similar assets or works
 - Location – e.g. a range of assets within a defined geography.
 - Risk profile – e.g. where similar risks apply to the assets within the package.
 - Timing – e.g. where there is a logical grouping based on the schedule for delivery.

Factors to consider:

- Highlight any key assumptions made that underline the scope of the project or programme, alongside the change that would be required if the assumption changed.
- Consider whether the project or programme will be attractive to the market as packaged.
- Articulate how the approach to amalgamation has maximised the value for money offered through the use of DPC.

Discreteness tests 2 & 3: Construction risk and O&M risk



Application: Construction risk and O&M risk tests

The method of application for the second and third tests is similar, requiring the project-specific risks to be considered against Ofwat's default risk allocation, and any variations or mitigations to be identified. See Ofwat's default risk allocation on the following slides.

Method of application:

1. Set out the relevant risks specific to each project or programme. Begin with Ofwat's table of risks as set out in its DPC guidance and identify any additional risks which require specific consideration for each project or programme.
 - a) Are there any risks specific to the asset type, the nature of the works required or likely tender model which need to be considered.
2. Devise an initial risk allocation for the project between the Appointee, Customers and CAP, comparing against Ofwat's allocation of risks and considering:
 - a) Who is best placed to manage the risk and whether the market would be willing to accept responsibility for it.
 - b) Whether transferring the risk is likely to drive Value for Money or result in excessive risk pricing in the procurement process.
3. Where applicable, for each risk set out the mitigations assumed which will support the ability to effect risk transfer, e.g.
 - a) Activities undertaken to understand risk pre-tender to mitigate risks and enable effective risk pricing (e.g. design, surveys, investigations and planning).
 - b) Contractual mitigations to manage risk, e.g. variations, re-openers and compensation events.

Throughout the assessment, set out any key assumptions made which will need to be revisited as the project is developed further. In particular, highlight any assumptions made which may have a significant impact on the ability to effect risk transfer, and therefore upon the project's eligibility for DPC.

Factors to consider in the application of the construction risk test:

- Set out the interdependencies between risks, for example whether mitigation to one risk may affect another.
- Consider how might the packaging of a project affect its technical complexity and the ability to transfer risk.
- Consider whether any external factors have the ability to influence the delivery of the work and require special provision.
- Consider whether the market is likely to accept the risk transfer, and whether transferring the risk to the market is likely to result in excessive risk pricing (reducing incremental VfM).

Factors to consider in the application of the operations and maintenance risk test:

- Consider how the packaging of a project might impact its operational complexity, e.g. the number and type of interfaces to be managed.
- Consider interdependency between risks, for example how operation might influence the need for maintenance.
- Set out the contractual assumptions that underline the division of responsibilities between Appointee and CAP.
- Consider whether the market is likely to accept the risk transfer, and whether transferring the risk to the market is likely to result in excessive risk pricing (reducing incremental VfM).

Construction and asset delivery risks (1/2) (Template)

Using the matrix below, Ofwat’s standard allocation of construction risks is compared against an initial view of the expected risk allocation for the project to identify areas of deviation and any mitigations assumed.

Risk	Description	Standard DPC allocation			Application to project				
		Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Planning	Planning consent is not forthcoming, or conditions require changes to scope of project / impose additional requirements on the project	✓	✓						
Land	Unable to secure appropriate land rights to deliver the project, requiring change to the project.	✓	✓						
Other consents	A project may require a range of other consents to deliver and operate the asset, e.g. abstraction licences, discharge consents etc.	✓	✓						
On time delivery	The works cannot be completed to time		✓	✓					
Cost overruns	The works cannot be completed to budget	✓	✓	✓					
Site conditions	Site conditions (e.g. ground conditions) are different from the information made available by the Appointee during the tender process			✓					
Works information	Inaccurate works information is provided to bidders as part of the tender process. Works information specifies the work required to be delivered and any constraints.		✓						
Detailed design	Detailed design does not meet requirements			✓					
Third parties	Stakeholder and customer management during delivery of works		✓	✓					
Changes in scope (also see changes in law)	Changes to project requirements during construction e.g. because of unforeseen legal/regulatory changes. The Appointee must look for the best way to manage the impact of changes which affect a DPC project, which might mean changes elsewhere in its operations	✓	✓						

Construction and asset delivery risks (1/2) (Template)

Using the matrix below, Ofwat’s standard allocation of construction risks is compared against an initial view of the expected risk allocation for the project to identify areas of deviation and any mitigations assumed.

Risk	Description	Standard DPC allocation			Application to project				
		Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Interfaces with Appointee’s existing assets	Mismanagement and/or poor definition of interfaces results in additional work/delays		✓						
Commissioning	Constructed works are not fit for purpose and/or do not meet contractual requirements			✓					
Financing costs	Financing costs are higher than expected and included in the bid revenue stream.	✓		✓					
Refinancing gains	Savings to the CAP’s financing costs because of refinancing post construction	✓		✓	✓		✓	Allocation expected to be as per Ofwat’s standard risk allocation in all cases considered. Accordingly, these risks are not repeated in the individual assessments above.	Bidders may seek to negotiate
Customer bad debt	Increased under recovery of revenue from customers, e.g. due to higher bills which may be partially riven by the DPC project.	PR	✓		PR	✓			N/A
Changes in law / regulation which impact the activity being delivered by the CAP in terms of the CAP agreement.	The DPC project is impacted by changes in legislation and/or regulation specific to DPC projects, the water sector and/or structure of the water industry and which have an impact on the requirements for the project.	✓			✓				Contractual variations to manage changes arising from change in law / regulation.
	The DPC project is impacted by general changes in law – not specific to the water industry / DPC project, for example a change to tax law.			✓			✓	N/A	
	The DPC project is impacted by general changes in law which requires capex to implement. It is not considered best value to require the CAP to take responsibility for and fund capital changes that may or may not occur over the life of a project.	✓		✓	✓		✓	Contractual variations to manage changes arising from change in law / regulation.	

Operations and maintenance risks (Template)

Using the matrix below, Ofwat’s standard allocation of operations and maintenance risks is compared against an initial view of the expected risk allocation for the project to identify areas of deviation and any mitigations assumed.

Risk	Description	Standard DPC allocation			Application to project				
		Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Cost (opex and maintenance)	Cost of operating and/or maintaining the asset to the required standard exceeds the costs tendered			✓					
Operational performance	Inability to operate the asset(s) to meeting required performance standards in the contract. Even where the CAP is not operating the asset it may still have performance requirements around availability.			✓					
Compliance with statutory and regulatory obligations which impact the scope of the DPC project	The Appointee is unable to meet its statutory and regulatory obligations because of poor operational performance by the CAP. The Appointee cannot contract out of its statutory or regulatory obligations, but the CAP should have responsibility for delivering the asset and services as required by the CAP agreement.		✓	✓					
Defects during operations	Defects appear during operations causing interruptions to service and requiring remedial work.		✓	✓					
Demand risk	Actual demand for use of the asset is lower/higher than expected. The Appointee should scope the project requirements to reflect expected demand.	✓	✓						
Over-utilisation	Demand to operate the asset above the design requirements, resulting in higher incremental unit costs than remunerated through payment mechanics. The Appointee should scope the project requirements to reflect expected demand.	✓	✓						
Change in scope	The Appointee requires the CAP to either operate the works differently and/or invest in the asset to meet new requirements, or due to changes in inputs to the works (e.g. raw water quality, sewage composition, etc.).	✓	✓						
Value testing	The project operational costs do not reflect the actual cost of operations and the CAP includes risk pricing.	✓		✓					
Condition of asset/hand back risk	Asset condition at the end of the contract period is lower than required by the contract.			✓					

CONFIDENTIAL

Assessments for competitive delivery



Assessments for competitive delivery

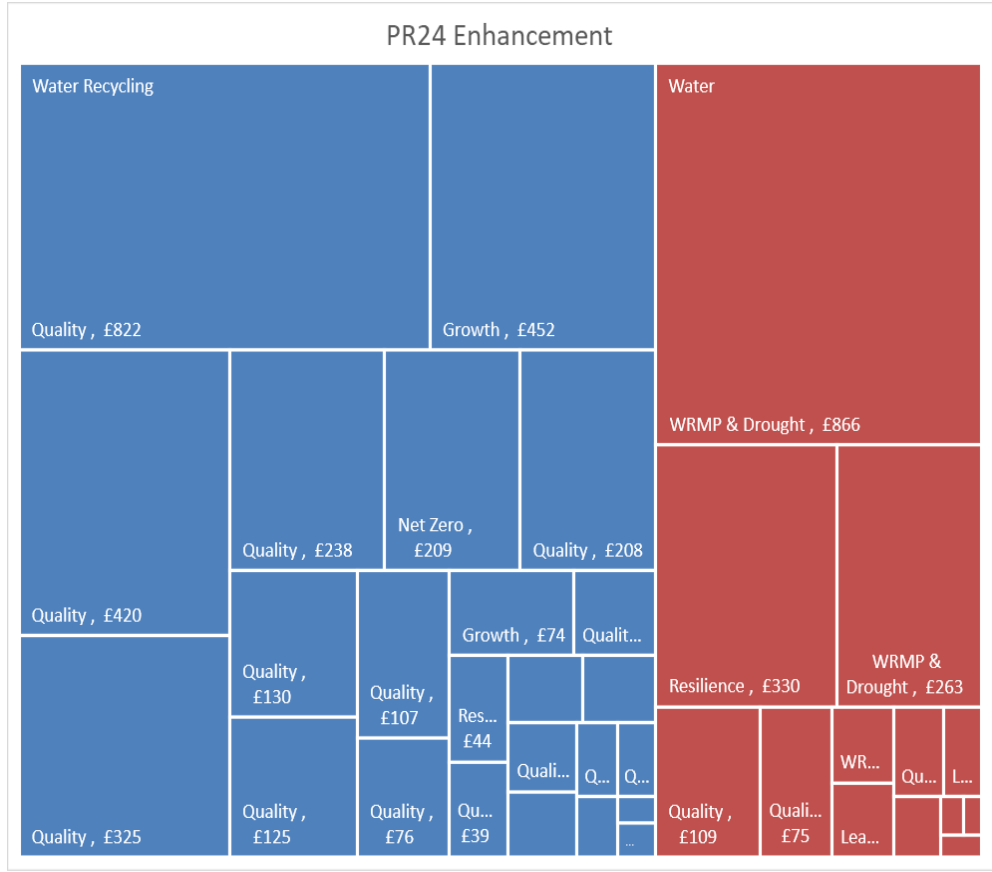
The following sub-sections set out the detailed assessment against each project. The assessments are set out systematically, following the structure below:

	Title	Contents
1	Eligibility assessment summary	A summary of the project, delivery timescales and current status of development. A table demonstrating the application of the size test, summarising the outcome of the discreteness test and setting out the project's DPC eligibility.
2	Project-specific factors affecting DPC eligibility	Discussion of the details specific to each project, in each case setting out the impact on DPC eligibility. Summarising areas for further development for projects to be taken forward through DPC.
3	Construction risk assessment	Analysis of the key construction, operation and maintenance risks set out in Ofwat's DPC guidance, in each case highlighting areas of deviations and any contractual mitigations proposed.
4	Operational and maintenance risk assessment	

Note: the detail of the projects which were filtered as part of the initial assessment is covered in appendix 1

Identification of projects to assess

The AMP8 enhancement programme contains a significant volume of projects and programmes. A filter was applied to ascertain the largest programme and programmes. These were then filtered through an initial assessment to identify candidates for the detailed assessment.



To identify the projects for assessment, the PR24 enhancement programme was filtered to identify:

- Large, single projects with a whole life totex greater than £200m.
- Large programmes of assets with a whole life totex greater than £200m.

This identified a long list of over 20 projects

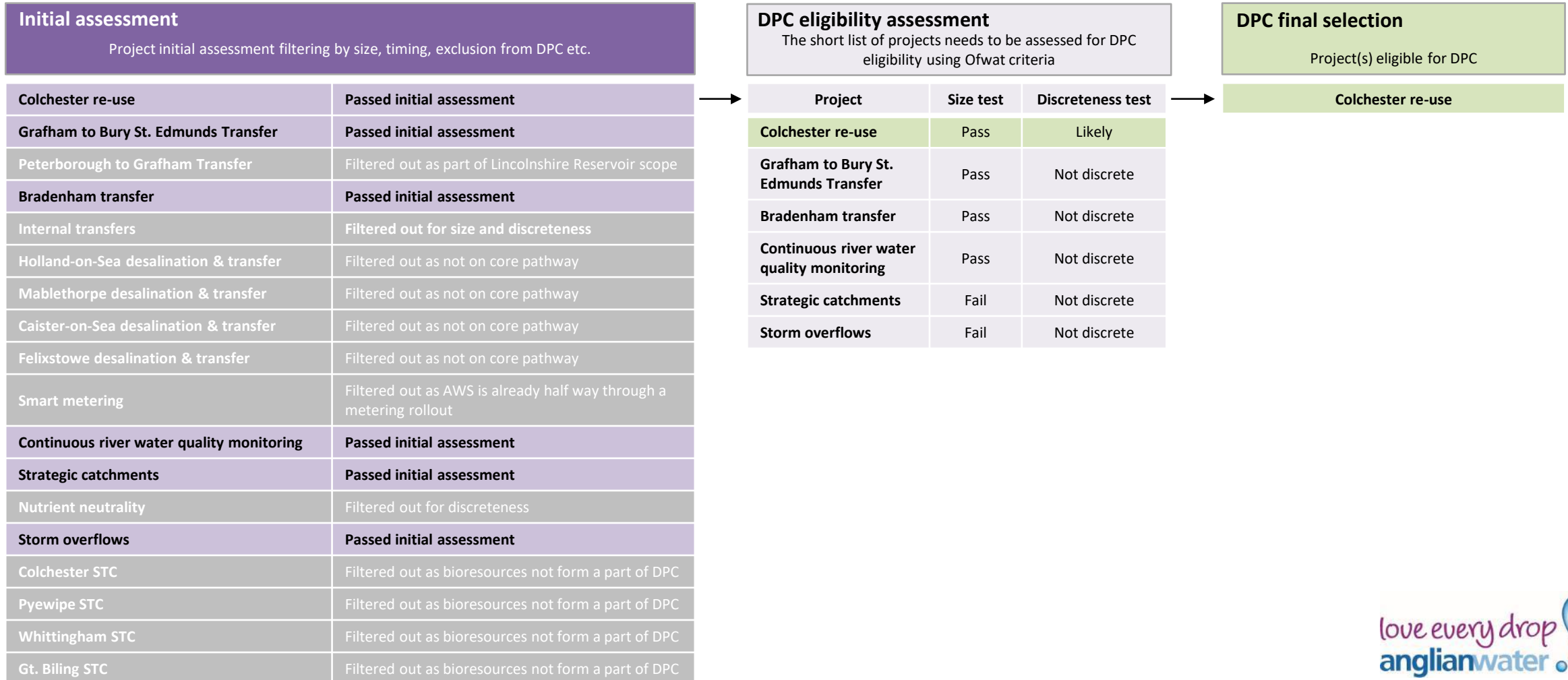
The initial assessment filtered the list of candidates down from 20+ to a list of 6 projects and programmes by applying filters based on size, timing, and Ofwat classification of projects.

Ofwat issued guidance noting that a VfM is not required but Ofwat’s methodology notes that there may be benefits driven by delivery of projects via DPC to customers such as introduction of innovation and project specific pricing of risk. These benefits are more likely to be driven by projects of greater than £200m totex which is covered by the initial test.

A detailed eligibility assessment was conducted for the 6 remaining projects.

Initial assessment to detailed assessment

The capital programme was filtered from over 20 capital projects down to a short-list of 6. From this shortlist, Colchester re-use was identified as a DPC eligible project.



Summary of the assessment outcomes

The table below briefly summarises the key conclusions of the individual project assessments

Project	Size test	Discreteness test			DPC eligibility
		Programme scalability	Construction risk	Operation & Maintenance risk	
Colchester re-use	Pass	Single asset	No significant reason most construction risks cannot be transferred or mitigated.	No significant reason most O&M risks cannot be transferred or mitigated.	DPC eligible
Continuous water quality monitoring	Pass	Programme of assets	The approach to consenting the assets may warrant the adoption of a different approach to market. Changing technology and regulatory setting imply that the project doesn't qualify for discreteness.	No significant reason most O&M risks cannot be transferred or mitigated. A key DPC eligibility challenge is the relatively short asset life of 10 years noting that Ofwat guidance generally recommends DPC for longer asset lifetimes >25 years.	Not DPC eligible
Grafham to Bury St. Edmunds transfer	Pass	Single asset	It is unlikely that the risk of delivery within the required timescales for the project can be effectively transferred or mitigated contractually.	The future use case for the transfer is uncertain and has the potential to be significantly impacted by other projects and sources of supply. It may be challenging to transfer or mitigate this risk contractually.	Not DPC eligible
Bradenham Transfer	Pass	Single asset	The transfers' position in a complex network means that the construction and commissioning interfaces risks cannot be effectively transferred or mitigated contractually.	The programme has interface and operational risks that are difficult to transfer to CAP. The future use case for the transfers is also expected to change overtime and entering into a CAP would reduce flexibility and could impact future performance.	Not DPC eligible
Strategic catchments	Fail	Programme of assets	Green catchment solutions are small-scale, dispersed, require significant stakeholder engagement and do not deliver on a single timeline. It is unlikely that an attractive package of works could be created of sufficient size for DPC at this stage.	No significant reason most O&M risks cannot be transferred or mitigated.	Not DPC eligible
Storm and retention tanks	Fail	Programme of assets	Some assets are integrated into AWS' existing sites and treatment works, meaning works would be required on the same site. For network storage, the timing of delivery across a multitude of dispersed assets prevents effective packaging.	The assets are effectively passive and therefore offer little opportunity to transfer operational risk to the market. As the assessment concluded that construction risks cannot be transferred, maintenance is therefore also excluded.	Not DPC eligible

CONFIDENTIAL

Colchester Reuse



Assessment for competitive delivery



Colchester re-use: eligibility assessment

The Project:

- A new Water Treatment Works with a capacity of 15MI/D. The plant is intended to continually operate at the stated capacity (i.e. it is not a resilience asset).
- The new WTW would be fed from Anglian Water’s Colchester Water Recycling Centre (WRC) and output into the Ardleigh Reservoir.

Delivery timescales:

- The pilot plant and transfer associated with the plant have been granted funding for accelerated delivery under the Green Recovery Initiative. Accordingly, these assets are out of scope for DPC.
- The asset’s required in-service date is 2032, however AWS would like to deliver the plant by 2030. This is due to a reduction in abstraction licences from 2030 onwards, driven by sustainability reductions. There are no other new resource options in Essex South WRZ that can provide sufficient resource to offset the deficit this will cause.

Current status:

- A DWI Reg.31 risk assessment will be required for the re-use water entering the reservoir.
- Initial sections of the project have been allowed accelerated funding by the Ofwat / Defra. The scope of the DPC project will need to be defined clearly against those assets which will be delivered early.

AMP8 capex (£m)	£35.0m
AMP8 opex (£m)	£0m
Capex (£m)	£100.2m
Opex (£m) (annual / whole life)	£1.8m pa (£106m whole life)
Renewal capex (£m)	£91.7m
Assumed asset life (years)	60 years
Whole life totex (£m)	£297.7m
Size test	Pass
Programme scalability test	>£200m on a single project basis
Construction risk test	No significant reason most construction risks cannot be transferred or mitigated.
Operations and maintenance risk	No significant reason most O&M risks cannot be transferred or mitigated.
Discreteness test	Somewhat Discrete
	DPC Eligible
DPC eligibility	The project satisfies Ofwat’s size and discreteness tests. However, delivery to AWS’ desired timescales (2030) may be challenge to achieve through DPC and require the acceleration of project development. .

Project-specific factors affecting DPC eligibility

Commercial arrangements will need to be considered for the earlier-delivered assets (pilot and transfer). An acceleration of activity will likely be required for the project to be delivered within desired timescales.

Factors considered	Implication for DPC eligibility
<p>Pilot plant and transfer confirmed out of DPC scope. AWS has obtained approval accelerate the delivery of the transfer (from WRC to reservoir) and the pilot plant under the Ofwat/Defra Accelerated Infrastructure initiative.</p>	<ul style="list-style-type: none"> Given the accelerated timeline, only the WRC itself could be eligible for delivery through DPC. Therefore the associated costs of the pilot plant and transfer have been excluded for the DPC assessment. The WRC on a standalone basis still represents a single asset suitable for delivery under DPC.
<p>The DPC re-use plant will need to interface with AWS' accelerated assets. The WRC will need to interface with the existing pilot plant and transfer once constructed.</p>	<ul style="list-style-type: none"> A CAP would need to deliver a WRC that integrates with the accelerated pilot plant and transfer. There may be complexity where the CAP is required to deliver the WRC on the same site / adjacent to the pilot plant, however these interfaces are not considered prohibitive. Interfacing of the WRC with the pilot plant can likely be managed contractually and would not prohibit delivery under DPC. AWS may wish to consider whether to transfer ownership and operation of the pilot plant and/or transfer to the CAP in advance of commissioning.
<p>AWS desires to deliver the plant by 2030. The Full WRC will be required by 31/03/2032 to maintain supply/demand balance. Time limited abstraction licences go to recent average in 2030 due to sustainability reductions and there are no other new resource options in Essex South WRZ that can provide sufficient resource to offset the deficit this will cause.</p>	<ul style="list-style-type: none"> Ofwat expects that companies will not instantly dismiss DPC schemes because of time constraints, but instead set out the reason for the constraint and why it cannot be changed. It is unclear whether maintaining supply/demand balance constitutes sufficient rationale to exclude a project from delivery through DPC. Given the desired delivery timescales, it will be necessary to engage with Ofwat to secure acceptance of the project and agreement to commence and fund activity on the project before the beginning of AMP9.

Required to deliver the project through DPC:

- Acceleration of project delivery with activity beginning in the final years of AMP7, support by a sufficient regulatory allowance.
- Detailed consideration of the commercial arrangements for the accelerated assets (pilot and transfer) once a CAP is appointed.

Colchester re-use: Construction risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Planning	✓	✓		✓	✓		Assuming a late model, AWS would secure planning, land and any other necessary consents. AWS will need to ensure consents are sufficient for the early (pilot + transfer) and later (WRC) works.	N/A
Land	✓	✓		✓	✓			
Other consents	✓	✓		✓	✓			
On time delivery		✓	✓		✓	✓	Full WRC required by 2032 to maintain supply/demand balance. Risk of failing to meet license obligations cannot be materially transferred to CAP.	Compensation events for delay and/or damages.
Cost overruns	✓	✓	✓	✓	✓	✓	Following Ofwat's guidance, assume a complex project where cost overruns are shared.	Target cost – pain/gain sharing.
Site conditions			✓			✓	CAP best placed to manage.	Possibly compensation events for ground risk.
Works information		✓			✓		Appointee best placed to manage	N/A
Detailed design			✓			✓	CAP best placed to manage.	N/A
Third parties		✓	✓		✓	✓	Shared risk of stakeholder and customer management during delivery of works	Performance incentive could be applied.
Changes in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	Contractual variations if required.
Interfaces with Appointee's existing assets		✓			✓		Appointee best placed to manage. Some complexity expected in blending re-use with existing pilot and transfer constructed on accelerated timescales.	Compensation events for delay and/or damages.
Commissioning			✓		✓	✓	CAP best placed to manage. As AWS will have existing assets on site it may hold some risk re. facilitating commissioning (if pilot remains under AWS' control).	Compensation events for delay and/or damages.
Financing costs	✓		✓	✓		✓	Assuming a target cost arrangement, adjustment may be required for changes in financing costs.	Cost of debt adjustment during construction.

Colchester re-use: Operation and maintenance risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Cost (opex and maintenance)			✓			✓	CAP best placed to manage	N/A
Operational performance			✓			✓	CAP best placed to manage.	Asset availability and flow volumes incentives as part of the payment mechanism as appropriate.
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	Water quality requirements may apply. AWS will retain exposure unless DWI enforcement powers are changed. CAP performance requirements will reflect AWS' obligations to mitigate risk of breach.	CAP likely to be incentivised / penalised under contract for any failures resulting in a breach of statutory / regulatory duty.
Defects during operations		✓	✓		✓	✓	CAP to be responsible for defects up to the statutory time limit, then responsibility reverts to Appointee.	N/A
Demand risk	✓	✓		✓	✓		AWS best placed to manage through water resource planning and scope to match expected demand and levels of utilisation.	N/A
Over-utilisation	✓	✓		✓	✓			
Change in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation.	N/A
Condition of asset/hand back risk			✓			✓	CAP best placed to manage.	Deductions from Residual Value Payment or similar reconciliation to account for condition at hand back.

CONFIDENTIAL

Continuous Water Quality Monitoring (CWQM)



Assessment for competitive delivery



Eligibility assessment

The Project:

- Installation of c.3500 water quality monitors across various discharge locations, monitoring for a range of key quality parameters.
- The key driver for the project is the EA's storm overflows reduction plan. This imposes requirements to monitor upstream and downstream of discharge locations, using powers given by the Environment act 2021.

Delivery timescales:

- Currently, installation is envisaged to be split across AMP8 / AMP9.
- However, the definition of the monitoring programme will be key when considering delivery timescales as legislative amendments could reduce scope and volume of meters required.
- If under DPC, it may also be appropriate to consider a different programme schedule for the installation of the monitors.

Current status:

- Potential for scope reduction if company preferred plan is followed instead of current statutory plan. Expecting EA guidance which will provide a revised view of the requirement for monitoring.

AMP8 capex (£m)	£202.2m
AMP8 opex (£m)	£6.3m
Capex (£m)	£288.9m
Opex (£m) (annual / whole life)	£8.4m p.a. / £83.7m whole life
Renewal capex (£m)	£18.0m
Assumed asset life (years)	10 years
Whole life totex (£m) (10 years)	£390.6m
Size test	Pass
Programme scalability test	Considered as a package of smaller works this programme passes the size test.
Construction risk test	The approach to consenting the assets may warrant the adoption of a different approach to market. Changing technology risk also warrants further consideration.
Operations and maintenance risk	No significant reason most O&M risks cannot be transferred or mitigated.
Discreteness test	Not discrete - based on Ofwat guidance on asset life and regulatory changes.
DPC eligibility	Not eligible for DPC The programme of assets is sizeable and will be physically separate from AWS network. However, Ofwat guidance notes these assets are not suitable. An additional eligibility challenge for this project is the relatively short asset life of 10 years and the potential pace of technology and regulatory change in this field noting that Ofwat guidance generally recommends DPC for longer asset lifetimes >25 years.

Project-specific factors affecting DPC eligibility

Water quality monitoring is new, with requirements that continue to evolve and may impact the programme's eligibility for DPC. A different procurement approach may better facilitate the timely delivery of a this smaller, dispersed asset type.

Factors considered	Implication for DPC eligibility
<p>Updated Ofwat guidance noted that only packages where individual assets have a value greater than £5m are suitable and programmes such as river water monitoring are not eligible. They also noted that where the asset life is significantly shorter than the expected 25 year contract the scheme is likely not suitable.</p>	<ul style="list-style-type: none"> Each monitor has a value of c£250k and an average economic life span of 10 years so therefore does not meet Ofwat's guidance.
<p>Solution specification (and potentially technology) is liable to evolve over time. Monitoring requirements are enshrined in legislation, and can be expanded by the Secretary of State to include additional parameters. The technology used in monitoring is also novel and will develop over time.</p>	<ul style="list-style-type: none"> A DPC contract specification would need to reference the legislative requirements. However, AWS would hold the residual risk that requirements change post award, requiring contractual variation and introducing additional cost. As the CAP would own the assets, AWS' ability to negotiate may be limited, potentially reducing VfM.
<p>The programme will require a significant volume of land acquisition. By nature, CWQM assets are dispersed and located outside of AWS' network, therefore require land purchase / access. An early estimate is c.£42m. Land acquisition will not occur simultaneously across all sites, however AWS will need to deliver c.50% of the programme in AMP8, often addressing the worst performing CSOs.</p>	<ul style="list-style-type: none"> AWS would need to consider a tender model which best enabled it to meet its required delivery timescales. This could procuring for batches of monitors under the late model (as groups of assets are consented), or procuring under an early or split model, whereby AWS could work with the provider(s) throughout the development stage and into delivery (see following slides).
<p>There are legislative and technical requirements which determine where monitoring kiosks must be sited. Specific siting of a monitor at the discharge points is complex, as the monitor must sample where complete mixing has occurred. Modelling (to determine siting) can be complex and expensive.</p>	<ul style="list-style-type: none"> The market is unlikely to accept risk for siting the assets, instead expecting AWS to set out the siting as part of its specification. It's likely that a significant deal of definition would be required across the programme of monitors in order to give the market a clear view.
<p>The nature of the works involves installation of plant, power connections and novel equipment in remote locations. This is an area outside of AWS' typical experience in delivery.</p>	<ul style="list-style-type: none"> It may be preferable for the market to deliver the works on AWS' behalf. Particularly, for example, organisations with experience in monitoring and sampling.

Construction risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Planning	✓	✓		✓	✓		The risk around securing land, access, planning and consents is expected to remain with AWS.	Subject to further definition, however it is likely that a form of cost adjustment mechanism may be required.
Land	✓	✓		✓	✓			
Other consents	✓	✓		✓	✓			
On time delivery		✓	✓		✓	✓	CAP predominantly responsible timely delivery, but will need to work with AWS so risk shared.	Compensation events for delay and/or damages.
Cost overruns	✓	✓	✓	✓	✓	✓	Following Ofwat's guidance, assume a complex project where cost overruns are shared.	Target cost – pain/gain sharing.
Site conditions			✓		✓	✓	Sampling must take place where water is well mixed. Some sites require expensive, detailed assessments to locate an adequate sampling location and ensure mixing requirements are met.	Possibly compensation events for ground risk.
Works information		✓			✓		Appointee best placed to manage	N/A
Detailed design			✓		✓	✓	Data obtained from the monitoring sites must meet interface with AWS' existing network and meet legislative requirements (e.g. 15 minutes sampling intervals).	N/A
Third parties		✓	✓		✓	✓	Shared risk of stakeholder and customer management during delivery of works	Performance incentive could be applied.
Changes in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	Contractual variations if required.
Interfaces with Appointee's existing assets		✓			✓		CAP best placed to manage. Physical interfaces are expected to be minimal.	N/A
Commissioning			✓			✓	CAP best placed to manage.	Compensation events for delay and/or damages.
Financing costs	✓		✓	✓		✓	Assuming an early model, a cost adjustment mechanism may be required, which may include a mechanism to share financing costs where appropriate.	Adjustments within defined ranges, e.g. for to inflation.

Operation and maintenance risk assessment

Risk	Standard DPC allocation			Application to project					Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment		
Cost (opex and maintenance)			✓			✓	CAP best placed to manage	N/A	
Operational performance			✓			✓	CAP best placed to manage.	Performance incentives applied to monitors to ensure compliance with sampling requirements.	
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	AWS will remain ultimately responsible for breaches caused by the operation of its assets. However the CAP may assume some risk for reported breaches caused by faulty / failed monitoring equipment.	CAP likely to be incentivised / penalised under contract for any failures resulting in a breach of statutory / regulatory duty.	
Defects during operations		✓	✓			✓	Expect that the CAP will assume this risk given the short life of the assets. See also the points raised against the stat compliance risk above.	Compensation events for defects caused during installation.	
Demand risk	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A	
Over-utilisation	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A	
Change in scope	✓	✓	✓	✓	✓	✓	As per Ofwat's risk allocation.	N/A	
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation.	N/A	
Condition of asset/hand back risk			✓			✓	As per Ofwat's risk allocation, however given the short lives of the assets, the approach to hand back is likely to warrant further consideration.	N/A	

Potential tender models

As a programme of smaller assets, the continuous water quality monitoring programme is fundamentally different from a traditional DPC project, and may warrant the consideration of a different tender model, such as the early or split models.

Infrastructure procurement typically follows a “late” tender model (shown right), whereby the incumbent completes several key pre-tender development phase activities before launching the procurement to find a provider.

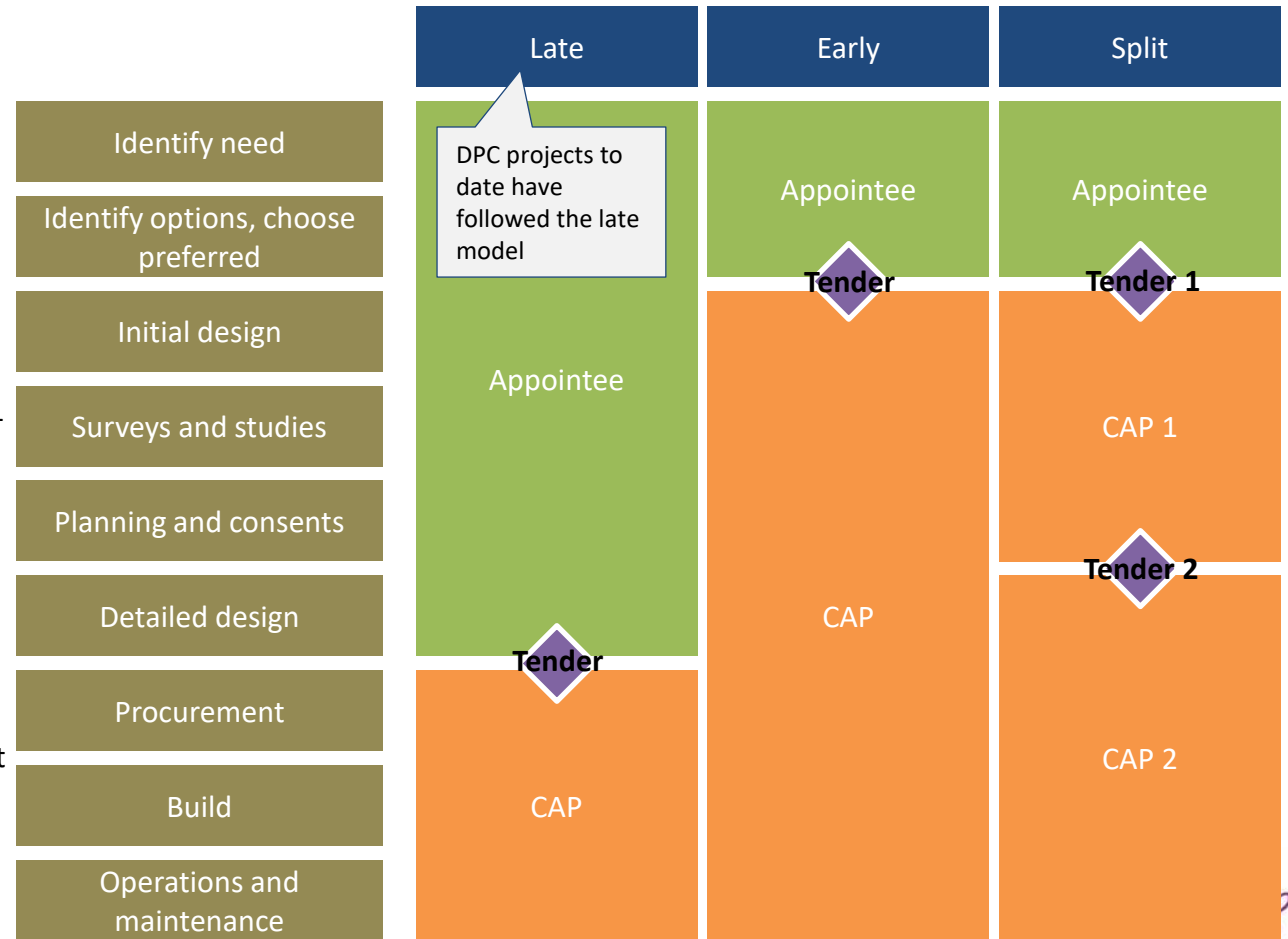
This approach is followed because achieving planning permission is fundamental prerequisite to being able to deliver the works. Where there is a single / small number of assets, it makes sense for this to be addressed before delivery begins.

Programmes of smaller assets (such as river water quality monitoring) may warrant a different approach. Planning permissions and other pre-tender activities will not all complete at the same time – some sites will be ready for delivery earlier than others, meaning the development and delivery phases are likely to overlap.

It is unlikely to be time-efficient to wait until the development works (siting, planning etc.) are complete for all monitors before beginning delivery, as would be the case under the late model.

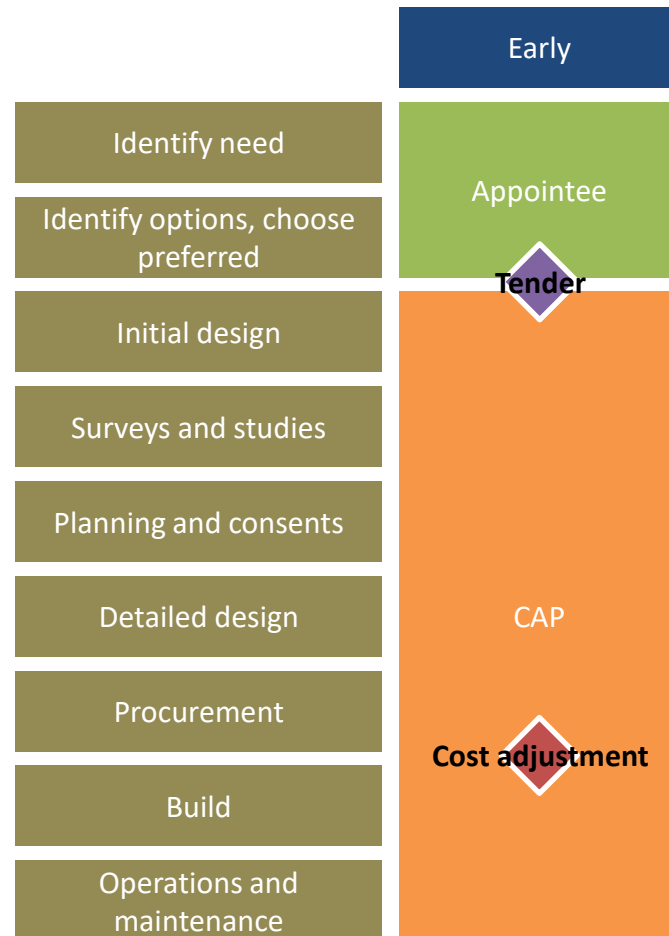
Therefore, it may be preferable to adopt a tender model which would allow a CAP to begin to deliver monitors as and when the development works complete at each site.

The “early” and “split” tender models should be considered for their potential to better suit the specific nature of the continuous river water quality monitoring programme.



The early model

The early model would alleviate the timing issue, allowing a single CAP to progress the development (design, site, consent etc.) and delivery (install, operate, maintain, etc.) of each monitor. However, AWS would need to consider how to manage allowable adjustments to CAP bid costs, reflecting the outcome of development activities.



Application of the early model to CWQM:

Under this model, a CAP would be procured to bring the project through both the development and the delivery phases.

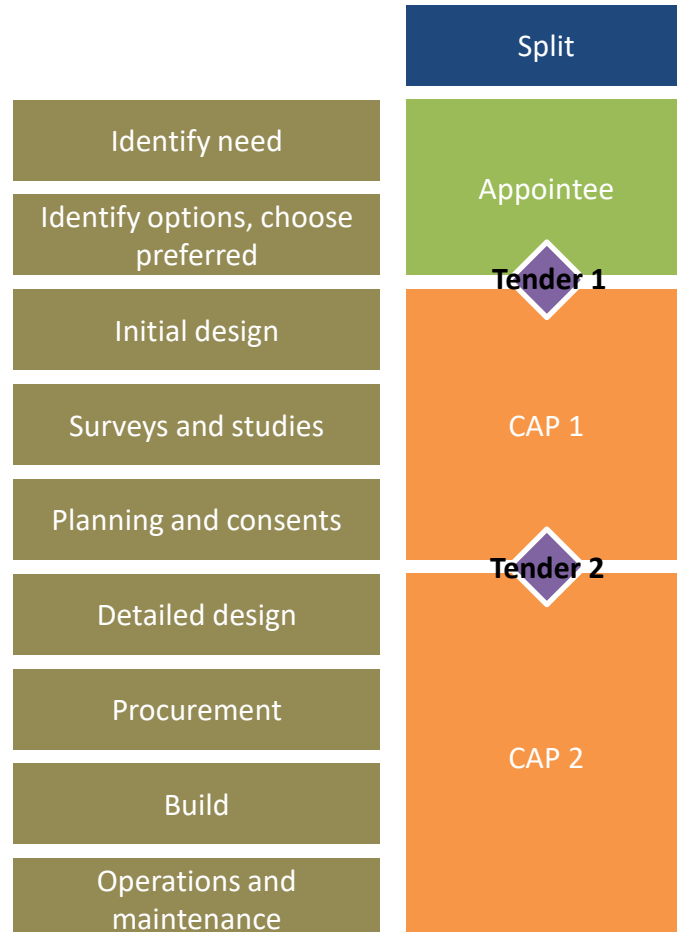
- AWS would undertake limited work prior to launching the procurement. It would procure a CAP on the basis of a defined need and potentially a preferred solution.
- Once appointed, a CAP would assume responsibility for the development phase activities, undertaking the design, siting the monitors, conducting and additional surveys as required, achieving the necessary planning conditions and purchasing the land required.
- The CAP would then deliver, operate and maintain the assets over a defined term. The CAP would also provide the necessary telemetry and data services.

Key implications:

- As it would be given before detailed project development activities had been completed, **the CAP's tender price would be an estimate only, and would need to be revised before the delivery phase.**
- **AWS would need to administer a cost-assessment process** prior to delivery, adjusting the CAP's tender price to reflect the changes arising from the development phase. The basis of this adjustment would need to be set out beforehand, and would set out limits on allowable adjustments. This application of this assessment would need to be market tested and agreed with Ofwat.
- However, **the early model would mitigate the timing issue caused by the overlap of the development and delivery phases**, allowing the CAP to commence the delivery of each monitor as and when the development activities were complete.

The split model

The split model would allow AWS to procure separate CAPs for the development and delivery phases. This could allow work to begin quickly, however it would require AWS to conduct two complex procurements, and may not alleviate the timing issue between phases.



Application of the split model to CWQM:

Under this model, AWS would procure two CAPs, one for the development phase and one for the delivery of the assets.

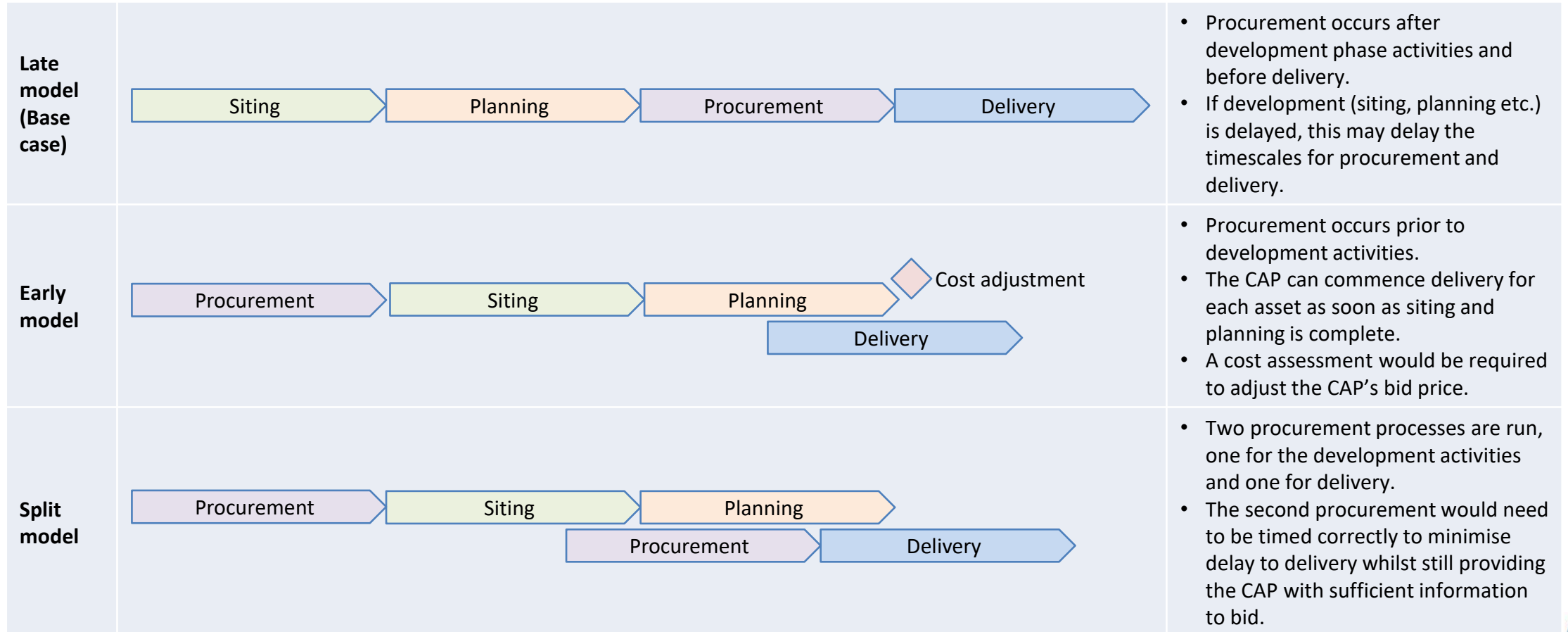
- AWS would launch a first procurement for the development phase CAP (CAP 1).
- Once appointed, CAP 1 would assume responsibility for the development phase activities, undertaking the design, siting the monitors, conducting and additional surveys as required, achieving the necessary planning conditions and purchasing the land required.
- During the development phase, AWS would launch a second procurement for the delivery phase CAP (CAP 2).
- Once appointed, CAP 2 would deliver, operate and maintain the assets over a defined term. CAP 2 would also provide the necessary telemetry and data services.

Key implications:

- **This approach may allow AWS to progress more quickly;** as the first procurement would cover only the development phase activities.
- The split model also **eliminates the need for a cost adjustment process** (as seen under the early model) as the efficient costs of delivery would be shown through the second procurement process.
- However, **this model would place additional requirements on AWS for resourcing**, as it would be required to conduct two complex procurement processes.
- Further, **this model may not alleviate the timing issue between the development and delivery phases**, as AWS would need to choose the time at which to procure CAP 2, cognisant of the amount of development work which has been completed by CAP 1. If mistimed, this could result in risk pricing from bidders in the CAP 2 procurement and delays to delivery.

Illustration of tender models

The diagram below provides a simplified illustration of the order of activities under each of the three tender models considered. As can be seen, the timing of the procurement process can have a significant impact on the delivery of the project.



For the purpose of this assessment, the late tender model is assumed. However, further exploration of the appropriate tender model would be required to ascertain the best route to deliver the project.

CONFIDENTIAL



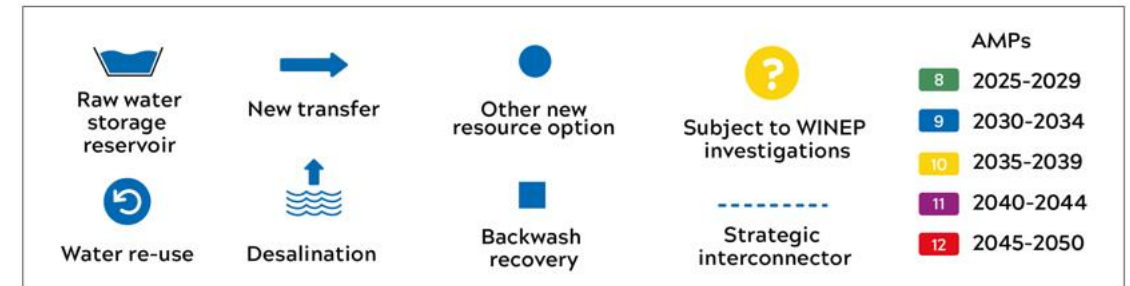
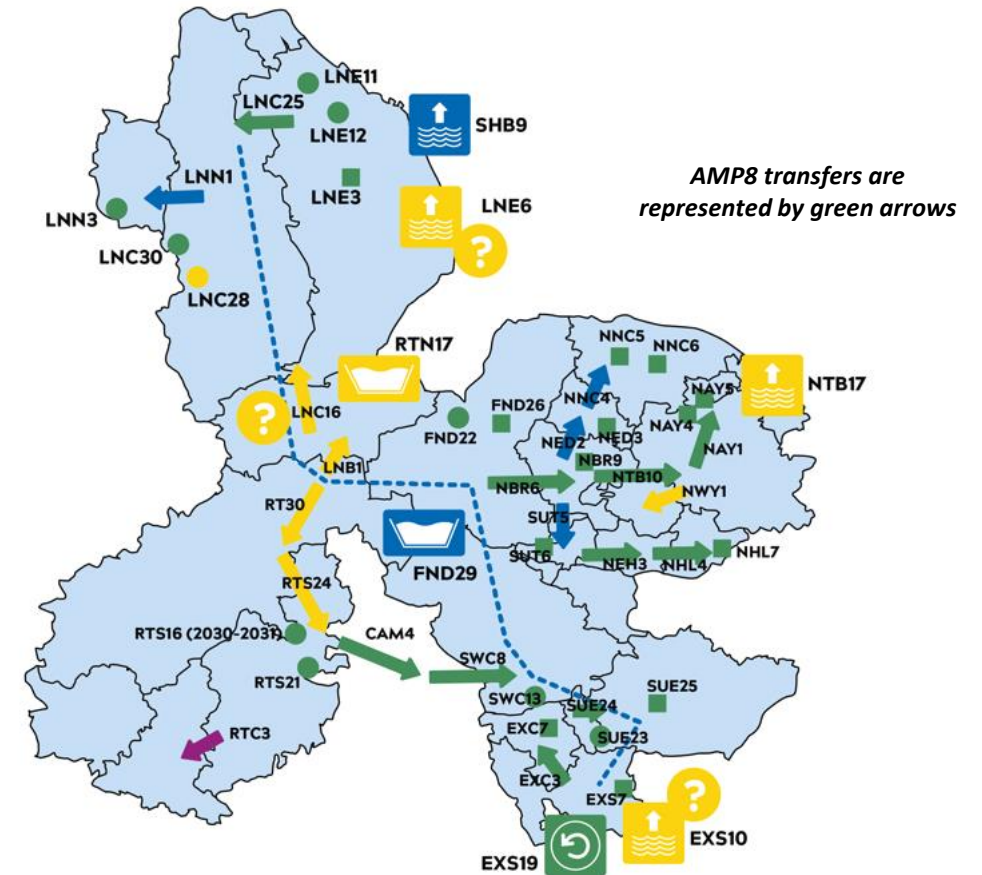
AMP8 transfer projects

Assessment for competitive delivery



AMP8 transfer projects - overview

- AWS' PR24 programme includes 13 transfer projects, including one of with an associated WTW upgrade.
- The projects will be delivered across AWS network and will integrate heavily with existing assets.
- We have identified only two opportunities to bundle some projects together based on their location, current stage, timeline and other relevant Ofwat's criteria – these are Grafham to Bury St. Edmunds Transfer (that consists of CAM4 and SWC8 schemes) and Marham facilities (that consists of FND22a and FND22b schemes)
- The detailed information about the bundling consideration is provided in the following slides.
- This assessment has culminated in the examination of 11 schemes (9 separate projects and 2 bundles).
- The detailed information about the projects, including timescale considerations, current status etc, is provided on separate slides and in the summary section.



AMP8 transfer projects – scalability considerations

According to the Ofwat’s guidance, the ‘bundling’ criteria were considered to define if the transfer projects could be considered jointly for the purposes of DPC eligibility, using the following methodology:

1. Assess the suitability of bundling the assets for competitive tender
 - a) Assets under the programme represent new or replacement infrastructure and are not adaptations to existing assets (i.e. not extensions of existing assets, heavy maintenance, refurbishment)
 - b) All assets under the programme are of a similar type, technology or are closely interconnected
 - c) All assets under the programme are on the same stage of development
 - d) All assets within the programme rely on the same supply chain
 - e) All assets within the programme represent a similar risk profile
 - f) All assets within the programme require delivery within the same timeframe
 - g) All assets within the programme are located in the same area
 - h) Individual assets within the bundle are at least £5-10m each

If any of the answers for questions 1a – 1h is “no” the programme scope should shrink iteratively until all the answers would be positive

2. Reapply the size test
 - a) Does the programme (excluding assets not suitable for bundling) have a combined whole life totex of above £200m?

According to the assessment performed, we have identified the following opportunities for bundling according to the considered criteria:

- Cambs Water 50MI/d (CAM4) and Suffolk West 50MI/d (SWC8) together comprise the Grafham to Bury St. Edmunds Transfer
- Marham 13.6MI/d Transfer (FND22b) and Marham WTW (FND22a) together comprise the Marham facilities bundle
- All other transfer projects are not suitable for bundling because of the land, consenting and interface risks, which are unique for each transfer, as well as the possibility of usage changes over time in line with AWS’ evolving network operation.

AMP 8 transfer projects – summary (1/2)

East Suffolk WRZ IPZ	Harleston 5MI/d Supply (NHL4)	Potential bundle (fails size test) Marham facilities		E Harling 5MI/d Supply (NEH3)	Essex Central 10MI/d Supply (EXC3)
		Marham 13.6MI/d Transfer (FND22b)	Marham WTW upgrade* (FND22a)		
£7.6m Capex	£25.1m Capex	£20.7m Capex	£27.2m Capex	£20.2m Capex	£9.7m Capex
£0.002m Opex (annual)	£0.12m Opex (annual)	£0.27m Opex (annual)	£0.11m Opex (annual)	£0.12m Opex (annual)	£0.05m Opex (annual)
£1.8m Renewal capex	£11.3m Renewal capex	£14.6m Renewal capex	£25.4m Renewal capex	£8.7m Renewal capex	£5.4m Renewal capex
100 years Asset life	100 years Asset life	100 years Asset life	60 years Asset life	100 years Asset life	100 years Asset life
£9.6m Whole life totex	£48.7m Whole life totex	£62.5m Whole life totex	£59.5m Whole life totex	£40.9m Whole life totex	£20.2m Whole life totex
Fail Size test	Fail Size test	Fail Size test	Fail Size test	Fail Size test	Fail Size test

* Not a transfer project itself but this project is connected with Marham transfer that feeds this WTW

AMP 8 transfer projects – summary (2/2)

Suffolk East
10MI/d (SUE24)

£7.5m

Capex

£0.13m

Opex (annual)

£7.1m

Renewal capex

100 years

Asset life

£27.6m

Whole life totex

Fail

Size test

Bradenham
(Passes size test)

Bradenham
50MI/d (NBR6)

£103.6m

Capex

£1.36m

Opex (annual)

£38.0m

Renewal capex

100 years

Asset life

£277.6m

Whole life totex

Pass

Size test

Irby to Elsham
29MI/d (LNC25)

£69.4m

Capex

£0.7m

Opex (annual)

£43.0m

Renewal capex

100 years

Asset life

£182.4m

Whole life totex

Fail

Size test

Norfolk Broads
20MI/d (NTB10)

£82.4m

Capex

£0.15m

Opex (annual)

£2.1m

Renewal capex

100 years

Asset life

£99.5m

Whole life totex

Fail

Size test

Aylesham
3MI/d (NAY1)

£14.7m

Capex

£0.13m

Opex (annual)

£12.2m

Renewal capex

100 years

Asset life

£39.7m

Whole life totex

Fail

Size test

Grafham to Bury St. Edmunds Transfer
Potential bundle (Passes size test)

Cambs Water
50MI/d (CAM4)

£78.0m

Capex

£0.53m

Opex (annual)

£20.8m

Renewal capex

100 years

Asset life

£151.7m

Whole life totex

Fail

Size test

Suffolk West
50MI/d (SWC8)

£194.3m

Capex

£2.0m

Opex (annual)

£70.5m

Renewal capex

100 years

Asset life

£465.2m

Whole life totex

Pass

Size test

Project-specific factors affecting DPC eligibility

Interface and operational complexities mean these projects are unlikely to be eligible for DPC

Factors considered	Implication for DPC eligibility
<p>Several transfers are located in regions of AWS' network where there is a high density of existing assets. There is a number of interconnections and interface points with AWS network which would be difficult for a CAP to manage contractually.</p>	<ul style="list-style-type: none"> • Construction may cause disruption to AWS' existing network and therefore the risk cannot be effectively transferred to the CAP. • During operation, the interconnectors are envisaged to be integral to AWS' network and will play a strategic role in balancing the network's supply. AWS is best placed to manage operational performance and it is unlikely that this can be effectively transferred to the CAP. • In-house delivery provides AWS with better operational flexibility required to balance the network supply.
<p>The ability to package is hampered by the need to design the transfer programme holistically across the network – Design decisions taken for one transfer are likely to affect others, meaning that it would be difficult to fully specify some projects for DPC without adding potential constraints to the design or delivery of other projects.</p>	<ul style="list-style-type: none"> • AWS' experience in the delivery of its AMP7 transfer programme has shown the need for and benefit of retaining flexibility in the design process to accommodate changes arising from (inter alia) consenting challenges across the route of extended transfers. • Where changes are required in one area, the construction approach and programme can be adapted to accommodate, for example by changing the route of the project in one area without delaying the construction of other successfully consented areas. • This is particularly important given that the AMP8 transfer programme is required in order to comply with the WFD by 2030. Under a DPC model a fully consented scope would be required across the entire DPC scope prior to the start of construction, and would therefore likely result in a longer overall delivery timeline and potentially the compromise of delivery against regulatory requirements.
<p>Usage may change over time – the immediate intention is for the transfer to act as a North to South interface, however once FR is built it could be used as a West to East interface. A DPC contract may limit flexibility in re-purposing the asset at a later date.</p>	<ul style="list-style-type: none"> • The entry of Fens Reservoir into regional operations is likely to significantly change the operating model for the transfers. It will likely be difficult for AWS to give certainty to a prospective CAP over the future operational use patterns for the assets, which would be essential for them to price the project effectively and reflect the uncertainty in the contractual arrangements. Without this certainty, bid prices would likely include significant provision for risk.
<p>Ground risks represent a risk to on time delivery and cost. While it is not uncommon for transfers to involve drilling and tunnelling under existing infrastructure, the scale of this scheme has resulted in many more high-risk sites being identified than a typical project.</p>	<ul style="list-style-type: none"> • A CAP may be unwilling to enter into a fixed term contract, however Ofwat expects that the appointee will work with the market to share these risks that could potentially lead to excessive pricing.



CONFIDENTIAL



Grafham to Bury St. Edmunds Transfer

Assessment for competitive delivery



Eligibility assessment

The Project:

- A new 70km, 50MI/D transfer between Grafham and Bury St. Edmunds that effective consists of two assets (that are technically linked): Cambs Water 50MI/d (CAM4) and Suffolk West 50MI/d (SWC8) that are spined off from the AWS internal transfer programme and considered separately because of their size and technical discreteness.
- The transfer is planned to supplement Cambridge Water's supply until delivery of Fens Reservoir (FR). FR is currently proceeding through RAPID process.
- Supply to CW is expected to be c.25MI/D of the 50MI/D capacity and will taken from headroom capacity (i.e. capacity above AWS' requirements). The trading arrangements are expected to be complex and involve AFW due to existing contractual arrangements.

Delivery timescales:

- Funding was requested to progress the project through accelerated deliver, under the Green Recovery Initiative. AWS/CW envisaged a 2030 delivery.
- The request was not successful, with objections noted around cost and scope, and CW are appealing this decision. AWS are continuing with enabling works and plan to meet the existing delivery target date.
- Tight delivery deadline creates strong argument against alternative delivery routes (including DPC) that usually requires additional time compared to the in-house delivery.

Current status:

- Assessed as a likely for candidate for DPC in the initial assessment, this transfer has been reassessed in light of:
 - Ofwat and Defra's decision on the Accelerated Investment programme, which denied funding to accelerate delivery, and
 - Analysis of the multilateral engagements risks (please see the next slide)

AMP8 capex (£m)	£97.3m*
AMP8 opex (£m)	£0m
Capex (£m)	£272.2m
Opex (£m) (annual / whole life)	£2.53 pa (£253m whole life)
Renewal capex (£m)	£91.3m
Assumed asset life (years)	100 years
Whole life totex (£m)	£616.9m
Size test	Pass
Programme scalability test	>£200m on a single project basis
Construction risk test	It is unlikely that the risk of delivery within the required timescales for the project can be effectively transferred or mitigated contractually.
Operations and maintenance risk	The future use case for the transfer is uncertain and has the potential to be significantly impacted by other projects and sources of supply. It may be challenging to transfer or mitigate this risk contractually.
Discreteness test	Not discrete
DPC eligibility	Not eligible for DPC
	The project passes the size test, however the need for accelerated delivery and additional risks arisen due to uncertainty around the long-term usage of the asset means it is not eligible for DPC.

* Includes £6.5m of spend assumed in the remainder of AMP7

Project-specific factors affecting DPC eligibility

The transfer is envisaged to meet CW's supply needs between 2032-2036, which will require delivery by 2029-30. The short timescales for delivery and complex water trading arrangements are barriers for DPC delivery.

Factors considered	Implication for DPC eligibility
<p>AWS' proposal to accelerate delivery of the transfer was rejected in the Ofwat/Defra Accelerated Investment submission. ¹ The regulators' assessment considered that accelerating at this stage could pre-empt decisions on larger enhancement spend on interdependent schemes. The EA has concerns about the scheme's reliance on a drought permit and the feasibility of options to generate the water needed to maximise the transfer which, it considers, also raises some concerns on deliverability.</p>	<p>Without acceleration, AWS proposes to deliver the transfer by 2029-30, which is a too tight timeframe for DPC delivery. Whilst Ofwat expects that companies will not immediately reject DPC schemes due to time constraints, this factor provides an additional argument against DPC delivery, which, in addition to other issues, effectively disqualifies the project from DPC.</p>
<p>The project meets an external need – additional supply to Cambridge Water. The transfer will allow AWS to provide Cambridge with additional supply (ca. 25 MI/D) from 2032 until FR comes online in 2034. AWS currently has an agreement to provide 1/3rd of Grafham supply to AFW, and therefore a series of bilateral contracts will be needed to facilitate the transfer to AWS.</p> <ul style="list-style-type: none"> ○ AWS/AFW: reduction of Grafham export ○ AWS/CW: provision of water from Grafham to CW via CAM4 ○ CW/AFW: purchase of rights to Grafham Water by funding the equivalent supply that AFW will gain from the GUC SRO scheme 	<p>All the external needs provided are not confirmed at current stage and are subject to further updates, including those from Ofwat's side. Uncertainty around use case would likely result in significant risk pricing under DPC and would mean that bidders would consider counterparty risk for all appointees. The expected timing of the potential need changes doesn't allow to mitigate this with a contract length.</p> <p>The presence of a complex arrangements between AWS, CW and AFW will significantly drive the complexity of operational control and interfaces, which are expected to be very difficult to manage contractually (especially assuming that the need and balance between parties may change in the future).</p>
<p>Usage may change over time – the immediate intention is for the transfer to act as a North to South interface, however once FR is commissioned it could be used as a West to East interface. A DPC contract may limit flexibility in re-purposing the asset at a later date.</p> <p>Following FR commissioning, additional works may be required which will result in CAP/IP interfaces and also the possibility for the CAP to raise further finance in the mid-term.</p>	<p>The interface between the CAP and FR IP will be very difficult to manage contractually, especially since there is no precedent for a CAP interfacing with an IP. Operational control will be very complex and difficult to manage contractually which makes DPC less suitable.</p> <p>In addition, the ability to undertake additional work and raise additional finance in the medium term will introduce additional funding risk for potential CAPs and could reduce competition and prevent efficiencies from being realised. The DPC framework (like similar PFI/PPP frameworks) doesn't allow for the risks of significant future expansion to be effectively addressed under a fixed price approach.</p>

1. <https://www.ofwat.gov.uk/wp-content/uploads/2023/04/Accelerated-Delivery-ANH-response-Apr-23.pdf>

Grafham to Bury St. Edmunds transfer: Construction risk assessment

Risk	Standard DPC allocation			Application to project				Assessment	Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP			
Planning	✓	✓		✓	✓		Assuming a late model, AWS would secure planning, land and any other necessary consents.	N/A	
Land	✓	✓		✓	✓				
Other consents	✓	✓		✓	✓				
On time delivery		✓	✓		✓		CW is facing a supply deficit and has an urgent need for this solution. The risk of failing to meet license obligations cannot be materially transferred to CAP.	Compensation events for delay and/or damages.	
Cost overruns	✓	✓	✓	✓	✓	✓	Following Ofwat's guidance, assume a complex project where cost overruns are shared.	Target cost – pain/gain sharing.	
Site conditions			✓	✓		✓	CAP best placed to manage, however ground risk is likely to be shared where conditions are worse than expected.	Possibly compensation events for ground risk.	
Works information		✓			✓		AWS best placed to manage	N/A	
Detailed design			✓		✓	✓	CAP best placed to manage, however depending on D&B contract, a very late model could be considered, which may transfer design risk to AWS.	N/A	
Third parties		✓	✓		✓	✓	Shared risk of stakeholder and customer management during delivery of works	Performance incentive could be applied.	
Changes in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	Contractual variations if required.	
Interfaces with Appointee's existing assets		✓			✓		AWS best placed to manage.	N/A	
Commissioning			✓			✓	CAP best placed to manage.	Comp events for Appointee caused delays.	
Financing costs	✓		✓	✓		✓	Assuming a target cost arrangement, adjustment may be required for changes in financing costs.	Cost of debt adjustment during construction.	
Refinancing gains	✓		✓	✓		✓	As per Ofwat's risk allocation	N/A	

Grafham to Bury St. Edmunds transfer: O&M risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Cost (opex and maintenance)			✓			✓	CAP best placed to manage	N/A
Operational performance			✓			✓	CAP best placed to manage.	Asset availability and flow volumes incentives as part of the payment mechanism as appropriate.
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	Water quality requirements may apply. AWS will retain exposure unless DWI enforcement powers are changed. CAP performance requirements will reflect AWS' obligations to mitigate risk of breach.	CAP likely to be incentivised / penalised under contract for any failures resulting in a breach of statutory / regulatory duty.
Defects during operations		✓	✓		✓	✓	CAP to be responsible for defects up to the statutory time limit, then responsibility revert to Appointee.	N/A
Demand risk	✓	✓		✓	✓		AWS best placed to manage through water resource planning and scope to match expected demand and levels of utilisation.	N/A
Over-utilisation	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation.	N/A
Condition of asset/hand back risk			✓			✓	CAP best placed to manage.	Deductions from Residual Value Payment or similar reconciliation to account for condition at hand back.

CONFIDENTIAL



Bradenham Transfer

Assessment for competitive delivery



Eligibility assessment

The Project:

- A new 45MI/D, 36km 900mm diameter transfer between Fenland and Bradenham.
- The project is driven by population growth and supply constraints arising reductions to regional abstraction licenses.
- The transfer is part of a larger enhancement to AWS' network connectivity in region. Two additional transfers of decreasing size will transfer water further into Norfolk. Further interconnections are also planned for AMP9.
- The transfer will service a large area, with physical offtakes to be installed at the end of each of the three transfer sections. Consequently the flow volume is expected to taper as the transfer progresses from West to East.
- Similar to Bury St. Edmunds, Fens Reservoir (FR) is expected to supply the transfer after its commissioning in 2036. FR is currently proceeding through RAPID process.

Delivery timescales:

- The transfer will need to be in service by 2030, as per our WRMP24.
- These tight delivery timescales are likely to be difficult to achieve if a DPC route were to be pursued.

Current status:

- The project is in the early stages of development.

CONFIDENTIAL

AMP8 capex (£m)	£72.6m
AMP8 opex (£m)	£0m
Capex (£m)	£103.6m
Opex (£m) (annual / whole life)	£1.34m
Renewal capex (£m)	£38.0m
Assumed asset life (years)	100 years
Whole life totex (£m)	£277.6m
Size test	Pass
Programme scalability test	>£200m on a single project basis
Construction risk test	The transfer's position in a complex network means that the construction and commissioning interfaces risks cannot be effectively transferred or mitigated contractually. The project must also be delivered by 2030 – a timescale which would be very difficult to achieve under DPC.
Operations and maintenance risk	The transfer has multiple interface points with the existing network and will be support current and future solutions throughout at the end of each transfer section. It may be difficult to effectively co-ordinate operation via a third party. The future use case for the transfer is also uncertain and has the potential to be significantly impacted by other projects and sources of supply. It may be challenging to transfer or mitigate this risk contractually.
Discreteness test	Not discrete
DPC eligibility	Not eligible for DPC
	The project passes the size test, however the additional risks arisen due to uncertainty around the long-term usage of the asset means it is not eligible for DPC.

Project-specific factors affecting DPC eligibility

Interface and operational complexities mean this project is unlikely to be eligible for DPC

Factors considered	Implication for DPC eligibility
<p>The asset will be a critical part of AWS' network, with several interfaces with other new and existing assets – The transfer forms part of a much larger network across the region served, for which several enhancements are proposed across AMP8 and future AMPs. The design and delivery of each of these assets will need to be considered at a wider level in order to ensure that they are operated effectively in service.</p>	<p>AWS' experience in the delivery of its AMP7 transfer programme has shown the need for and benefit of retaining flexibility in the design process to accommodate changes arising from (inter alia) consenting challenges across the route of extended transfers.</p> <p>Where changes are required in one area, the construction approach and programme can be adapted to accommodate, for example by changing the route of the project in one area without delaying the construction of other successfully consented areas.</p> <p>This is particularly important given that this transfer is required in order to comply with the WFD by 2030. Under a DPC model a fully consented scope would be required across the entire DPC scope prior to the start of construction, and would therefore likely result in a longer overall delivery timeline and potentially the compromise of delivery against regulatory requirements.</p>
<p>Usage may change over time - The transfer is split into three sections with many interface points at each juncture. This provides flexibility in its usage which will be integral to AWS' network management as solutions and abstraction reductions continue to take place throughout the network.</p> <p>For example, although outflows are currently envisaged to occur at each juncture, with volume tapering towards Norwich, there may be future need to increase flow to the end of the transfer.</p>	<p>All the external needs provided are not confirmed at current stage and are subject to further updates, including those from Ofwat's side. Uncertainty around use case would likely result in significant risk pricing under DPC and would mean that bidders would consider counterparty risk for all appointees. The expected timing of the potential need changes doesn't allow to mitigate this with a contract length.</p> <p>The presence of a complex arrangements between AWS and the CAP will significantly drive the complexity of operational control and interfaces, which are expected to be difficult to manage contractually.</p>
<p>Interface with IP. The immediate supply for the transfer will be from AWS' wider network. Once FR is commissioned, it is intended for FR to supply the transfer.</p> <p>Following FR commissioning, additional works may be required which will result in CAP/IP interfaces and also the possibility for the CAP to raise further finance in the mid-term.</p>	<p>The interface between the CAP and FR IP will be very difficult to manage contractually, especially since there is no precedent for a CAP interfacing with an IP. Operational control will be very complex and difficult to manage contractually which makes DPC less suitable.</p> <p>In addition, the ability to undertake additional work and raise additional finance in the medium term will introduce additional funding risk for potential CAPs and could reduce competition and prevent efficiencies from being realised. The DPC framework (like similar PFI/PPP frameworks) doesn't allow for the risks of significant future expansion to be effectively addressed under a fixed price approach.</p>

Construction risk assessment

Risk	Standard DPC allocation			Application to project			Assessment	Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP		
Planning	✓	✓		✓	✓		Assuming a late model, AWS would secure planning, land and any other necessary consents.	N/A
Land	✓	✓		✓	✓			
Other consents	✓	✓		✓	✓			
On time delivery		✓	✓		✓		The asset is required to be in service by 2030. Given the time taken to develop and procure the project, we consider that it would unlikely be possible to achieve delivery within timescales under DPC.	Allowing time for development and procurement, it would likely not be possible to procure a CAP who could deliver within the required timescales.
Cost overruns	✓	✓	✓	✓	✓	✓	Following Ofwat's guidance, assume a complex project where cost overruns are shared.	Target cost – pain/gain sharing.
Site conditions	✓		✓	✓		✓	CAP best placed to manage, however ground risk is likely to be shared where conditions are worse than expected.	Possibly compensation events for ground risk.
Works information		✓			✓		AWS best placed to manage	N/A
Detailed design		✓	✓		✓	✓	CAP best placed to manage, however depending on D&B contract, a very late model could be considered, which may transfer design risk to AWS.	N/A
Third parties		✓	✓		✓	✓	Shared risk of stakeholder and customer management during delivery of works	Performance incentive could be applied.
Changes in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	Contractual variations if required.
Interfaces with Appointee's existing assets		✓			✓		AWS best placed to manage.	N/A
Commissioning			✓			✓	CAP best placed to manage.	Comp events for Appointee caused delays.
Financing costs	✓		✓	✓		✓	Assuming a target cost arrangement, adjustment may be required for changes in financing costs.	Cost of debt adjustment during construction.
Refinancing gains	✓		✓	✓		✓	As per Ofwat's risk allocation	N/A

O&M risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Cost (opex and maintenance)			✓		✓	✓	The operational interdependency of Bradenham with other network transfers is likely to mean that it is difficult to transfer operational cost and performance risks. The assets will need to function as part of a wider network for which the pattern of operation will evolve of time, making it difficult to adequately determine an operational regime that could be priced effectively and provide value for money.	N/A
Operational performance			✓		✓	✓		Asset availability and flow volumes incentives as part of the payment mechanism as appropriate.
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	Water quality requirements may apply. AWS will retain exposure unless DWI enforcement powers are changed. CAP performance requirements will reflect AWS' obligations to mitigate risk of breach.	CAP likely to be incentivised / penalised under contract for any failures resulting in a breach of statutory / regulatory duty.
Defects during operations		✓	✓		✓	✓	CAP to be responsible for defects up to the statutory time limit, then responsibility revert to Appointee.	N/A
Demand risk	✓	✓		✓	✓		AWS best placed to manage through water resource planning and scope to match expected demand and levels of utilisation.	N/A
Over-utilisation	✓	✓		✓	✓			
Change in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation.	N/A
Condition of asset/hand back risk			✓			✓	CAP best placed to manage.	Deductions from Residual Value Payment or similar reconciliation to account for condition at hand back.

CONFIDENTIAL



Strategic Catchments

Assessment for competitive delivery



Eligibility assessment

The Project:

- Two strategic catchments are proposed at Southend and Caister. These are 'all green' solutions comprised predominantly of SuDS.
- The project will separate surface water from the combined sewer to limit storm overflows. Potential preferred solutions include:
 - Rain gardens
 - Wet swales
 - Wetlands
 - Bio retention ponds

Delivery timescales:

- The programme shown is to be delivered within AMP8.

Current status:

- SuDS have been discounted from the DPC route following Ofwat's updated guidance in July 2023, provided that small WINEP projects are not expected to be delivered under DPC and individual assets within the programme should be at least £5-10m.
- It would be key to consider the process of specifying outputs in collaboration with local stakeholders. This could provide an opportunity to engage market insight during the specification stage.

	Caister	Southend
AMP8 capex (£m)	£26.3m	£71.1m
AMP8 opex (£m)	£0m	£0m
Capex (£m)	£26.3m	£71.1m
Opex (£m) (annual / whole life)	£0.4m (£16.8m whole life)	£1.0m (£39.1m whole life)
Renewal capex (£m)	£19.5m	£89.7m
Assumed asset life (years)	40	40
Whole life totex (£m)	£62.6m	£199.9m
Size test	Fail	Fail
Programme scalability test	<£200m, Exact solutions are yet to be determined by the size of individual assets are likely to be below £5m in many cases.	
Construction risk test	Key risks cannot be transferred/managed	
Operations and maintenance risk	Some risks can be transferred/managed	
Discreteness test	Not discrete	
DPC eligibility	Somewhat Eligible	
	The strategic catchment programme does not pass the size test considering Ofwat's updated guidance (July 2023)	

Project-specific factors affecting DPC eligibility

Ofwat has clarified that it does not consider SuDS eligible for DPC at this time. The programmes' novelty and wide variability of solutions may also present challenges to DPC.

Factors considered	Implication for DPC eligibility
<p>Updated Ofwat guidance noted that only packages where individual assets have a value greater than £5m are suitable and programmes such as river water monitoring are not eligible. They also noted that where the asset life is significantly shorter than the expected 25 year contract the scheme is likely not suitable.</p>	<p>Whilst the actual solutions are likely to be devised on a case by case basis, they are unlikely to exceed £5m on an individual basis. Further, Ofwat expressly stated in its updated July guidance that it does not consider SuDS to be eligible for DPC at this time.</p>
<p>Type of programme. The programme consists of a large number of small solutions that separate surface water from the combined sewer to limit stormwater overflows, including rain gardens, wet swales, wetlands and bio-retention ponds.</p>	<p>Revised Ofwat's guidance presents additional criteria for the program scalability test: when bundling large numbers of similar assets for a DPC project, each discrete asset should cost at least £5m-£10m (explicitly mentioning smart meters, RWQM and SuDS). Also, projects whose average asset life is much shorter than the typical CAP agreement aren't expected to be DPC projects.</p>
<p>The strategic catchments will involve a range of solutions which are as yet undefined. In practice, defining the specific solutions to be implemented across a catchment will be a process of iteration and involve significant engagement with local stakeholders.</p>	<p>Solution definition will take place on a case by case basis. The delivery of earlier-defined solutions will likely run alongside the definition of solutions for other areas within a catchment. This might be solved with range of later tender model, however Ofwat explicitly discount this type of programmes from the DPC route.</p>
<p>AWS is currently exploring relationships with local stakeholders, including Local Authorities and other regional organisations. Several parties have been identified and may be interested in jointly funding catchment-based programmes. However, engagement is at a very early stage.</p>	<p>Buy-in from local authorities and regional stakeholders will be key to the success of catchment schemes, both in terms of implementation and enduring operation. Given the nascence of catchment schemes, the nature of local stakeholder involvement is as yet undefined, as is their willingness to invest. Given AWS' existing relationships with the stakeholders in the region it serves, AWS appears best placed to engage and develop a joint funding model for the delivery of catchment schemes. DPC may then be an opportunity in future AMPs once market players are identified and routes to secure partnership funding are more well-defined.</p>

Construction risk assessment

Risk	Standard DPC allocation			Application to project			Assessment	Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP		
Planning	✓	✓		✓	✓	✓	Planning permissions likely derives from LA powers. Assuming an early tender model, some consenting risk relating to planning and environmental permits could be transferrable to the CAP.	Comp events for delay where access is disrupted.
Land	✓	✓		✓	✓			
Other consents	✓	✓		✓	✓	✓		
On time delivery		✓	✓		✓	✓	The approach to delivery would need to be developed in partnership between AWS, LAs and the CAP. Likely that some cost sharing will be present.	Target cost contract assumed, or similar delivery incentive. Note – PFI precedent shows similar projects delivered under a fixed price model.
Cost overruns	✓	✓	✓	✓	✓	✓		
Site conditions			✓	✓		✓	CAP best placed to manage, however ground risk likely to be shared where conditions are worse than expected	Possibly compensation events for ground risk.
Works information		✓			✓		AWS best placed to manage in conjunction with LAs. AWS could explore early market involvement in developing scope for SuDS programme.	N/A
Detailed design		✓	✓		✓	✓	Design is likely to be relatively prescribed given type and location of interventions. AWS will hold residual risk that design does not meet need.	N/A
Third parties		✓	✓		✓	✓	Shared risk on customer engagement	Performance incentive could be applied.
Changes in scope	✓	✓		✓	✓		AWS best placed to manage.	Contractual variations if required.
Interfaces with Appointee's existing assets		✓			✓		Minimal interface expected with AWS' existing assets.	N/A
Commissioning			✓			✓	CAP best placed to manage. Commissioning risk is minimal for nature of assets considered.	N/A
Financing costs	✓		✓	✓		✓	Assuming a target cost arrangement, adjustment may be required for changes in financing costs.	Cost of debt adjustment during construction.
Refinancing gains	✓		✓	✓		✓	As per Ofwat's risk allocation	N/A

Operation and maintenance risk assessment

Risk	Standard DPC allocation			Application to project					Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment		
Cost (opex and maintenance)			✓			✓	CAP best placed to manage.	N/A	
Operational performance			✓			✓	Asset performance is likely to be availability based only.	Performance deductions for unavailability.	
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	Obligations around CSOs unlikely to be transferrable to the CAP. Risk transfer would be sought where efficient, however performance would likely be based on availability only, with residual regulatory risk retained by AWS.	Performance deductions for unavailability.	
Defects during operations		✓	✓		✓	✓	CAP best placed to manage. Maintenance of SuDS solutions will likely be required to ensure effectiveness. CAP will need to make provision accordingly.	Performance deductions for unavailability.	
Demand risk	✓	✓		✓	✓		AWS best placed to manage through water resource planning and scope to match expected demand and levels of utilisation.	N/A	
Over-utilisation	✓	✓		✓	✓				
Change in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A	
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation	N/A	
Condition of asset/hand back risk			✓			✓	As per Ofwat's risk allocation	N/A	

CONFIDENTIAL



Storm and retention tanks

Assessment for competitive delivery



Eligibility assessment

The Project:

- A mixture of solutions to combat storm overflows are being contemplated across 243 sites. These include:
 - Grey solutions – storm tanks, network storage, storm lagoons.
 - Green solutions – SuDS and other surface water management solutions.
 - Monitoring – installation of Event Duration Monitors (EDM)

Delivery timescales:

- The costs shown are for the AMP8 programme, although further works are anticipated in AMP9.

Current status:

- SuDS and other similar solutions (grey solutions, monitoring assets) have been discounted from the DPC route following Ofwat's updated guidance in July 2023, provided that small WINEP projects are not expected to be delivered under DPC and individual assets within the programme should be at least £5-10m.
- Land acquisition will be a differentiator between them, as Storm tanks will be on/adjacent to AWS owned land whereas network storage will not. It is possible that these will be buried and therefore only access will be needed.

CONFIDENTIAL

AMP8 capex (£m)	£451.7m
AMP8 opex (£m)	£11.0m
Capex (£m)	£451.7m
Opex (£m) (annual / whole life)	£3.5m (£224.8m whole life)
Renewal capex (£m)	£361.2m
Assumed asset life (years)	60 years
Whole life totex (£m)	£1037.7m
Size test	Fail
Programme scalability test	>£200m on a combined project basis, but size of the individual assets is below £5m threshold imposed in Ofwat's July 2023 update.
Construction risk test	Some assets are integrated into AWS' existing sites and treatment works, meaning works would be required on the same site. For network storage, the timing of delivery across a multitude of dispersed assets prevents effective packaging.
Operations and maintenance risk	The assets are effectively passive and therefore offer little opportunity to transfer operational risk to the market. As the assessment concluded that construction risks cannot be transferred, maintenance is therefore also excluded.
Discreteness test	Not discrete
DPC eligibility	Not DPC eligible
	Whilst storm tanks appear to form a large programme, in practice they will be delivered iteratively as each asset is sited. This limits the ability to form a package of works for DPC which would be sufficiently sized or attractive.

Project-specific factors affecting DPC eligibility

Whilst the storm and retention tank programme is large, it comprises a range of smaller assets of different sizes. It may not be practical to create a package for DPC which comprises only the larger assets.

Factors considered	Implication for DPC eligibility
<p>Type of programme. The programme consists of a large number of small solutions that separate surface water from the combined sewer to limit stormwater overflows, including rain gardens, wet swales, wetlands and bio-retention ponds.</p>	<p>Revised Ofwat’s guidance presents additional criteria for the program scalability test: when bundling large numbers of similar assets for a DPC project, each discrete asset should cost at least £5m-£10m (explicitly mentioning smart meters, RWQM and SuDS). Also, projects whose average asset life is much shorter than the typical CAP agreement aren't expected to be DPC projects.</p> <p>Whilst some projects may exceed the £5m threshold, it may not be sensible to subdivide the programme between the larger and smaller assets.</p>
<p>The nature of the works would be well-suited for delivery by an external party:</p> <ul style="list-style-type: none"> • Coated steel pre-fabricated above ground storm tanks at WwTW sites. • Sunk concrete retention tanks across the network. • AWS’ would expect that the assets were automatically operated based on flow levels. • There will be a requirement to install monitoring systems. 	<p>Both storm and retention tanks could be delivered by the same contractor, meaning there is potential to aggregate storm tanks (at WwTWs) and retention tanks (across the network) into a single package. However, we understand that Ofwat doesn’t expect the packaging of this types of assets for DPC.</p>
<p>The programme will require a significant volume of land acquisition. Whilst storm tanks will be required at existing WwTW sites, retention tanks will be required across the network, often in heavily urbanised areas where space is restricted. This may pose a challenge to the timing of delivery and may affect scope where access requires a different approach to implementation.</p>	<p>The market would expect AWS to secure planning and consents. If some rights were still outstanding at the point the project was procured, it would seek relief from its contractual obligations if that land wasn’t available on schedule.</p>

Construction risk assessment

Risk	Standard DPC allocation			Application to project				Assessment	Mitigations
	Cust.	App.	CAP	Cust.	App.	CAP			
Planning	✓	✓		✓	✓		Assume AWS will either already own or acquire necessary permissions or rights.	N/A	
Land	✓	✓		✓	✓				
Other consents	✓	✓		✓	✓				
On time delivery		✓	✓		✓	✓	CAP predominantly responsible timely delivery, but will need to work with AWS so risk shared.	Compensation events for delay and/or damages.	
Cost overruns	✓	✓	✓	✓	✓	✓	Following Ofwat's guidance, assume a complex project where cost overruns are shared.	Target cost – pain/gain sharing.	
Site conditions			✓			✓	CAP best placed to manage.	Possibly compensation events for ground risk.	
Works information		✓			✓		AWS best placed to manage	N/A	
Detailed design			✓			✓	CAP best placed to manage.	N/A	
Third parties		✓	✓		✓	✓	Shared risk of stakeholder and customer management during delivery of works	Performance incentive could be applied.	
Changes in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	Contractual variations if required.	
Interfaces with Appointee's existing assets		✓			✓		Interfaces likely to be minimal provided that clear areas for construction can be demarcated. AWS best placed to manage.	Comp events for delay and/or damage.	
Commissioning			✓		✓	✓	CAP best placed to manage but AWS likely to share some risk given the dependency upon AWS' assets.	Comp events for delays and/or damage.	
Financing costs	✓		✓	✓		✓	Assuming a target cost arrangement, adjustment may be required for changes in financing costs.	Cost of debt adjustment during construction.	
Refinancing gains	✓		✓	✓		✓	As per Ofwat's risk allocation	N/A	

Operation and maintenance risk assessment

Risk	Standard DPC allocation			Application to project				
	Cust.	App.	CAP	Cust.	App.	CAP	Assessment	Mitigations
Cost (opex and maintenance)		✓	✓		✓	✓	Given the passive nature of the assets and the integration of use with AWS' wider network, opportunities to transfer operations appear limited. A CAP could still provide maintenance.	Operations retained by AWS. Maintenance comp events for delay and/or damages caused by AWS operation (if negligent).
Operational performance		✓	✓		✓	✓		
Compliance with statutory and regulatory obligations which impact the scope of the DPC project		✓	✓		✓	✓	Obligations around CSOs unlikely to be transferrable to the CAP. Risk transfer would be sought where efficient, however performance would likely be based on availability only, with residual regulatory risk retained by SWS.	Performance deductions for unavailability.
Defects during operations		✓	✓		✓	✓	CAP to be responsible for defects up to the statutory time limit, then responsibility revert to Appointee.	Payment mechanism likely to be availability based. Over- or under-utilisation not a factor in contractual terms.
Demand risk	✓	✓		✓	✓		AWS best placed to manage through water resource planning and scope to match expected demand and levels of utilisation.	Comp events where over-utilisation accelerates asset deterioration
Over-utilisation	✓	✓		✓	✓			
Change in scope	✓	✓		✓	✓		As per Ofwat's risk allocation.	N/A
Value testing	✓		✓	✓		✓	As per Ofwat's risk allocation.	N/A
Condition of asset/hand back risk		✓	✓		✓	✓	CAP best placed to manage, however where AWS retains operation, account will need to be taken of whether assets have been operated properly when assessing condition at hand back.	Deductions from Residual Value Payment or similar reconciliation to account for condition at hand back.

CONFIDENTIAL

Initial assessment



Appendix 1



Draft for discussion purposes



Assumptions of the initial assessment

This assessment has been made at a very early stage in the process. To identify candidate projects for DPC, a broad assessment has been made using early cost data and generic assumptions, which must be validated in due course.

- Limited information was available on the characteristics of the assets considered, meaning the analysis of their suitability for DPC will need to be reconsidered in the context of more detailed technical understanding of each project's characteristics.
 - This limitation is more pronounced for novel project types, such as catchment projects and storm overflows, where the amalgamation of assets to form projects will need to be considered in light of greater detail as to the types of interventions that will be delivered.
- Early, high-level cost data has been used for the purpose of the size test. In many cases ranges were given, and in other cases it has not been possible to assess projects on a whole life totex basis (e.g. including all renewal capex). Full cost profiles will need to be developed for a more detailed assessment.
- There are several areas which should be revisited in a more detailed assessment:
 - The development and construction timelines are taken entirely from the WRMP and require further assessment to calculate DPC development allowance funding.
 - A holistic review of AWS' entire capital programme should be undertaken to identify projects which could be amalgamated to form packages for DPC in line with Ofwat's methodology.
 - The identification of candidate projects was undertaken prior to the publication of Ofwat's latest discreteness guidance. Ofwat is currently consulting on the proposed discreteness criteria for DPC eligibility. Once Ofwat's consultation has closed, a more detailed assessment of candidate projects should be completed and discreteness reassessed against the new criteria.
 - Many of the projects assessed are subject to evolving requirements which may affect the scope and suitability for DPC. As one example, the extent of the regulatory requirement for river water quality monitoring is liable to change as the scope of the requirement is developed by the EA. As these requirements crystallise, the eligibility for DPC should be updated.
- Ofwat has said that VfM analysis is not compulsory at initial stages of the DPC process. Ofwat is yet to release its updated VfM assumptions to be used in quantitative analysis.

CONFIDENTIAL

Current delivery timeline of candidate projects

The slide below sets out the timescales for the projects and programmes considered. The first two rows (Colchester re-use and Norfolk desalination) are assumed to be progressed through DPC.

Desired In Service Date

Required in Service Date

Adaptive pathway decision

DPC suitable

Not suitable for DPC

AMP	7		8					9					10					11	
Project \ Year	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Colchester re-use (DPC)	WRMP assumes min 7 (max 10) year development c.4 year construction period.							DISD		RISD									
Water quality monitoring			10 year rollout to 2035																
Grafham to Bury St. Edmunds Transfer	WRMP assumes min 3 (max 5) year development, incl. construction					DISD		RISD											
Peterborough to Grafham Transfer (Timing estimated as TBC)												WRMP assumes min 3 (max 5) year development, incl. construction					LR ISD		
Smart metering								Potential DPC works for next generation of meters after existing meter rollout is complete.											
Nutrient neutrality			Req. highest TAL by 2030, assume works complete over AMP8																
Storm overflows			10 year programme to 2035																
Strategic catchments			10 year programme to 2035																
Colchester, Pyewipe, Whittingham & Gt. Billing STC (bio excl. from DPC)			10 year programme to 2035																
Holland-on-Sea, Mablethorpe & Felixstowe desalination & transfer							APD	WRMP assumes min 7 (max 10) year development										RISD	

Colchester Re-use

The Project

A new Water Treatment Works with a capacity of 15MI/D. The plant is intended to continually operate at the stated capacity.

The new WTW would be fed from Anglian Water's Colchester Water Recycling Centre (WRC).

AWS plans to accelerate the delivery of the transfer (from WRC to reservoir) and the pilot plant under the Green Recovery initiative. Only the WRC itself will therefore be delivered through DPC.

Likely DPC eligible

Based on an assumed 60-year asset life, the project passes the £200m whole life totex threshold and is therefore considered 'DPC-by-default'.

£67m

Capex

£6.5m

Opex (annual)

60 years

Asset life

£520m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> Customer perception / support for re-use schemes needs testing, but is manageable.
Interactions with the network	<ul style="list-style-type: none"> Asset has a single point of interaction with AWS' inflow and outflow networks. Risks could be allocated effectively, and these interactions have been assessed as DPC eligible elsewhere.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Asset output is expected to contribute to baseload supply, therefore requirements could be defined based on need. It would be possible to accommodate variable flows if needed.
Asset and operational failures	<ul style="list-style-type: none"> Given its supply to Ardleigh Reservoir, short-term supply interruption could likely be accommodated with minimal impact on the network. Supply contamination risk exists, but this would also exist were the plant not delivered through DPC and could be managed contractually.

Other key considerations

Currently expected to be in service by 2032, however AWS intends to accelerate delivery and have the plant operational by 2030. The decision on the accelerated timeline will be made in March 2023.

A DWI Reg.31 risk assessment will be required for the re-use water entering the reservoir.

Colchester Re-use & transfer

The Project

A new Water Treatment Works with a capacity of 15MI/D, and a new transfer outputting into Ardleigh reservoir. The plant is intended to continually operate at the stated capacity.

The new WTW would be fed from Anglian Water's Colchester Water Recycling Centre (WRC).

Project includes the treatment process, land, buildings, pumping stations and water mains.

This configuration of the project includes the transfer costs as well (see slide 6 for re-use only).

Likely DPC eligible

Based on an assumed 60-year asset life, the project passes the £200m whole life totex threshold and is therefore considered 'DPC-by-default'.

£72.3m

Capex

£6.8m

Opex (annual)

63 years*

Asset life

£572m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> Customer perception / support for re-use schemes needs testing, but is manageable.
Interactions with the network	<ul style="list-style-type: none"> Asset has a single point of interaction with AWS' inflow and outflow networks. Risks could be allocated effectively, and these interactions have been assessed as DPC eligible elsewhere.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Asset output is expected to contribute to baseload supply, therefore requirements could be defined based on need. It would be possible to accommodate variable flows if needed.
Asset and operational failures	<ul style="list-style-type: none"> Given its supply to Ardleigh Reservoir, short-term supply interruption could likely be accommodated with minimal impact on the network. Supply contamination risk exists, but this would also exist were the plant not delivered through DPC and could be managed contractually.

Other key considerations

Currently expected to be in service by 2032, however AWS intends to accelerate delivery and have the plant operational by 2030. The decision on the accelerated timeline will be made in March 2023.

A DWI Reg.31 risk assessment will be required for the re-use water entering the reservoir.

* Asset life calculated as a weighted average of capex by asset type.

CONFIDENTIAL

Grafham to Bury St. Edmans Transfer

The Project

A new 70km, 50MI/D transfer between Grafham and Bury St. Edmonds.

The transfer may supplement Cambridge Water's supply until Fens Reservoir SRO is delivered (scheme proceeding through the RAPID process). Supply to CW is expected to be c.15MI/D and will be taken from headroom capacity (i.e. capacity above AWS' requirements).

Delivery accelerated through green recovery initiative.

Likely DPC eligible

Transfers generally have simple interfaces and can be considered discrete. The asset's opex and renewal capex costs over the contract term bring it over the threshold for 'DPC-by-default'.

£150m

Capex

£2.5m

Opex (annual)

100 years

Asset life

£495m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> Limited stakeholder interactions. Would need to consider how central the transfers are to CW's ability to meet supply requirements, obligations, and whether this risk could be managed under DPC.
Interactions with the network	<ul style="list-style-type: none"> Clear interface points at either end of each transfer. Would be necessary to consider how central the transfer is to AWS' networks, e.g. whether it might become critical to supply.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Outputs can be easily specified – maintained flow and quality through pipeline.
Asset and operational failures	<ul style="list-style-type: none"> Risks of failure are well understood (akin to typical operation of network transfers) and can be allocated effectively between parties.

Other key considerations

Given the potential to supply CW via transfer headroom, it would be key to consider whether AWS might seek to implement trading arrangements with CW which enabled it to contribute to the capital cost of the project through a BSA.

Strategic Catchments

The Project

Two strategic catchments at Southend and Caister. These are 'all green' solutions comprised predominantly of SuDS.

The project will separate surface water from the combined sewer to limit storm overflows. Potential preferred solutions include:

- Rain gardens
- Wet swales
- Wetlands
- Bio retention ponds

Possibly DPC eligible

Developing a definitive view of scope will be key to determining the market's capability to design and/or deliver a catchment project. Further consideration could be given to how and when the market would be brought into the scoping process.

£100m*

Capex

£[x]m

Opex (annual)

[x] years

Asset life

£[x]m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	The scope of catchment programmes relies heavily upon engagement with local stakeholders – LAs, communities, highways agencies, flood authorities etc. It is unlikely that these catchments can be delivered without local support.
Interactions with the network	The principal interaction with the network is the reduction of flows to sewers during wet weather, although by the nature of these solutions, these interactions are not direct physical interactions or interfaces.
Contributions to supply/capacity and ability to specify outputs	It would be key to consider if it would be possible to specify the outputs of catchment projects by direct reference to a reduction in sewer flows / flooding given that this is impacted by a range of exogenous factors.
Asset and operational failures	Assets are mostly passive, meaning there should be limited risk of operational failure, however the failure to maintain could cause reputational damage and harm relationships with local stakeholders and communities.

Other key considerations

It would be key to consider the process of specifying outputs in collaboration with local stakeholders. This may imply a late tender model once outputs are defined, or could provide an opportunity to engage market insight during the specification stage.

* Spread over 2 catchments

CONFIDENTIAL

Peterborough to Grafham Transfer

The Project

A new 45km, 100MI/D transfer between Peterborough and Grafham.

The transfer follows part of the A2AT transfer route. While A2AT has been discontinued, AWS proposes that this stretch of transfer to continue to interface LR with AWS' wider network.

The transfer's delivery and timing is dependent on successful delivery of LR.

Likely DPC eligible

Transfers generally have simple interfaces and can be considered discrete. The asset's opex and renewal capex costs over the contract term bring it over the threshold for 'DPC-by-default'.

£109m

Capex

£3.5m

Opex (annual)

100 years

Asset life

£584m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> Transfers typically involve limited stakeholder interactions due to the nature of the asset and limited operation and maintenance profile.
Interactions with the network	<ul style="list-style-type: none"> Clear interface points at either end of each transfer. Would be necessary to consider how central the transfer is to AWS' networks, e.g. whether it might become critical to supply.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Outputs can be easily specified – maintained flow and quality through pipeline.
Asset and operational failures	<ul style="list-style-type: none"> Risks of failure are well understood (akin to typical operation of network transfers) and can be allocated effectively between parties.

Other key considerations

The future and timing of this project will be dependent upon the treatment / progression of the RAPID Lincolnshire Reservoir and Anglian to Affinity Transfer (A2AT) scheme. This scheme may become part of the scope of the Lincolnshire Reservoir delivery package.

Desalination & transfers

The Project

AWS is considering 4 different desalination plants and associated transfers at different locations across Norfolk and Essex.

- Holland-on-Sea: 25MI/D
- Mablethorpe: 63MI/D
- Caister-on-Sea: 25MI/D
- Felixstowe: 25MI/D

These plants are not on core pathway with output not being required until 2040. A decision on these will be made in AMP8 (2029).

Likely DPC eligible

Whilst on AWS' adaptive pathway as part of its dWRMP24, each of the four desalination solutions identified appear to be eligible for DPC. This would be subject to a detailed assessment specific to each asset.

Pass

Holland-on-Sea
Size test

Pass

Mablethorpe
Size test

Pass

Caister-on-Sea
Size test

Pass

Felixstowe
Size test

See next slide for
individual
breakdown

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> ▪ DWI is a key stakeholder and will need to approve membranes, monitor water quality and approve the method of distribution into AWS' network. Desalination in public water supply is divisive and the public will need to be carefully managed.
Interactions with the network	<ul style="list-style-type: none"> ▪ The outputs from the desal plants must be blended at least 50:50 with non-desal water before entering the network. A local, large, reliable existing supply must be available.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> ▪ Asset output is expected to contribute to baseload supply, therefore requirements could be readily defined based on the finalised need.
Asset and operational failures	<ul style="list-style-type: none"> ▪ Given the pre-existing requirement for a local supply nearby, any short-term supply interruption could likely be accommodated with minimal impact on the network. Any contamination risk can likely be contractually managed.

Other key considerations

The DWI implications for desalination plants are far reaching and these will need to be fully explored. With a decision point of 2029, some development work may be needed in the upcoming planning cycle.

CONFIDENTIAL**Desalination & Transfer – individual projects****Holland-on-Sea****£144m**

Capex

£14.7m

Opex (annual)

71 years

Asset life

£1435m

Whole life totex

Pass

Size test

Mablethorpe**£278m**

Capex

£14.8m

Opex (annual)

66 years

Asset life

£1733m

Whole life totex

Pass

Size test

Caister-on-Sea**£134m**

Capex

£15.1m

Opex (annual)

73 years

Asset life

£1501m

Whole life totex

Pass

Size test

Felixstowe**£167.2m**

Capex

£14.6m

Opex (annual)

72 years

Asset life

£1467m

Whole life totex

Pass

Size test

← Asset lives have been calculated as a weighted average of capex between the desalination (60 years) and transfer (100 years) assets.

Smart Metering

The Project

AWS has a 10 year plan to upgrade to smart meters and create a smart network.

Across AMP7, AWS has delivered 0.5m smart meters and will have delivered 1.1 million by the end of the AMP. In AMP8, a further 1.1 million will be delivered across the remainder of AWS' region.

After rollout is complete, there will be a continual cycle of replacement.

Likely DPC eligible

It is feasible to consider DPC for a smart metering programme. Even in the absence of replacement capex considerations, the programme exceeds the £200m WLT threshold.

£190m*

Capex

£8m

Opex (annual)

15 years

Asset life

£310m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> A smart metering programme could be aligned with statutory rules for providing meters to customers. Consideration would need to be given to the management of CAP – customer interactions.
Interactions with the network	<ul style="list-style-type: none"> Outside of installation, interaction with AWS' network is expected to be negligible. Meter data format would need to be specified to meet AWS' needs and progress towards a smart network.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Assets do not contribute directly to supply, but may reduce demand. Outputs (meter information) are easily specified.
Asset and operational failures	<ul style="list-style-type: none"> Impact of an individual meter's failure would be negligible. The impact of widespread defects could be significant. Failure likely would not affect AWS' primary service obligations.

Other key considerations

Given the relatively short asset lives for meters, it would be key to consider the approach to contract length, asset depreciation, replacement and hand back when defining the commercial arrangements for DPC. Given the large amount of public data being collected, GDPR implications must be considered, as well as the strategic value of this data in the future.

* Consisting of £80m for units and a further £110 for installation

CONFIDENTIAL

Potential for scope reduction if company preferred plan is followed instead of current statutory plan. Expecting EA guidance which will provide a revised view of the requirement for monitoring.

Continuous Water Quality Monitoring

The Project

Installation of c.3500 water quality monitors across various discharge locations.

Key drivers are the EA – Storm overflows reduction plan. This imposes requirements to monitor upstream and downstream of discharge locations (Environment act 2021)

Likely DPC eligible

It is feasible to consider DPC for a monitoring programme. The programme passes the size threshold as currently configured, and the passive nature of the assets support an assessment that they are discrete.

£778m

Capex

£400m

Opex (AMP8 & AMP9)

c.7 years

Asset life (monitor)

£1178m*

Whole life totex (AMP8&9)

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	The obligation to install quality monitors is subject to new legislation being passed. Legislative obligations may be stringent, e.g. monitoring information to be available in real-time.
Interactions with the network	Whilst there are several points of interface with the network, assets are passive and require minimal operation, facilitating clear boundaries.
Contributions to supply/capacity and ability to specify outputs	There will be no supply/demand contribution. Outputs will be easily specified based on legislative requirements.
Asset and operational failures	Monitor failure impact upon Appointee operation may be minimal. Failure of monitoring and data publication could have regulatory ramifications.

Other key considerations

The definition of the monitoring programme will be key, potentially reducing the scope and volume of meters required as the legislative requirement develops. If under DPC, it may be appropriate to consider a different programme schedule for the installation of monitors than the currently envisaged AMP8 / AMP9 split.

* Given the short life of the assets, it would be necessary to consider further how to characterise the whole life cost of a monitoring project.

Strategic Catchments

The Project

Two strategic catchments at Southend and Caister. These are 'all green' solutions comprised predominantly of SuDS.

The project will separate surface water from the combined sewer to limit storm overflows. Potential preferred solutions include:

- Rain gardens
- Wet swales
- Wetlands
- Bio retention ponds

Possibly DPC eligible

Developing a definitive view of scope will be key to determining the market's capability to design and/or deliver a catchment project. Further consideration could be given to how and when the market would be brought into the scoping process.

£100m*

Capex

£[x]m

Opex (annual)

[x] years

Asset life

£[x]m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	The scope of catchment programmes relies heavily upon engagement with local stakeholders – LAs, communities, highways agencies, flood authorities etc. It is unlikely that these catchments can be delivered without local support.
Interactions with the network	The principal interaction with the network is the reduction of flows to sewers during wet weather, although by the nature of these solutions, these interactions are not direct physical interactions or interfaces.
Contributions to supply/capacity and ability to specify outputs	It would be key to consider if it would be possible to specify the outputs of catchment projects by direct reference to a reduction in sewer flows / flooding given that this is impacted by a range of exogenous factors.
Asset and operational failures	Assets are mostly passive, meaning there should be limited risk of operational failure, however the failure to maintain could cause reputational damage and harm relationships with local stakeholders and communities.

Other key considerations

It would be key to consider the process of specifying outputs in collaboration with local stakeholders. This may imply a late tender model once outputs are defined, or could provide an opportunity to engage market insight during the specification stage.

* Spread over 2 catchments

Nutrient Neutrality

The Project

A new statutory requirement for wastewater companies to upgrade WWTWs impacting on protected sites by 2030 to achieve the highest technically achievable levels (TAL) for nutrients – Phosphorous and Nitrogen

Unlikely to be DPC eligible

In practice, upgrades at existing treatment works are unlikely to be DPC eligible. The need for clear responsibility over operation indicates that a single party is likely best placed to upgrade and operate each WwTW in its entirety.

£60-90m

Capex (AMP8 only)

£[x]m

Opex (annual)

[x] years

Asset life

£[x]m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> Stakeholder interactions likely to be minimal on works at treatment works. Projects align with newly proposed statutory requirements.
Interactions with the network	<ul style="list-style-type: none"> Interactions with the network likely to be significant. Upgrades on existing treatment works may be challenging to co-ordinate if delivered by a CAP, and difficult to clearly define the boundaries of responsibility.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> Whilst the improvements made to meet nutrient neutrality requirements may be clear, it may be difficult to contextualise this in amongst the other operating requirements of wastewater treatment works, e.g. treatment volumes.
Asset and operational failures	<ul style="list-style-type: none"> Asset and operational failures could result in infringement of nutrient requirements. It may also be difficult to identify the cause of operational failures if the WwTW were a mixture of AWS and CAP assets / components.

Other key considerations

[]

Note – these are initial views based on the regulatory requirements, prepared without view of the costs and scope of AWS' nutrient neutrality activities.

Storm overflows

The Project

A mixture of solutions to combat storm overflows are contemplated, including:

- Grey solutions – storm tanks, network storage, storm lagoons.
- Green solutions – SuDS and other surface water management solutions.
- Monitoring – installation of Event Duration Monitors (EDM)

To be implemented across a maximum of 243 sites.

Possibly DPC eligible

The detail of the storm overflows programme would need to be assessed further to identify how assets could be packaged (potentially by location or preferred solution) in a manner which would be suitable and attractive to a potential DPC bidder.

£600m

Capex (AMP8 & 9)

£[x]m

Opex (annual)

[x] years

Asset life

£[x]m

Whole life totex

Pass

Size test

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> ▪ The projects interact positively with Appointee obligations and external stakeholders, contributing to the reduction of discharges and driving towards AWS' satisfaction of the requirements of the Storm Overflows Discharge Reduction Plan.
Interactions with the network	<ul style="list-style-type: none"> ▪ Interaction with the network varies depending upon solution. SuDS and other green solutions have minimal impact, whereas monitoring and some grey solutions may require works upon or adjacent to Appointee assets.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> ▪ The projects do not contribute to the supply/demand balance. ▪ Some outputs might be easily specified, e.g. installation of EDMs, construction of storm tanks, but other may not be as simple, e.g. green solutions.
Asset and operational failures	<ul style="list-style-type: none"> ▪ Asset failures could have implications for Appointee obligations and reputation, e.g. obligation to report via EDMs. ▪ However, other assets such as storm tanks have a low operational requirement and low risk of failure.

Other key considerations

It would be key to consider how outputs could be defined, for example whether assets would need to be availability linked, or whether it would be possible to link outputs to reductions in discharges.

Sludge treatment

The Project

4 new sludge incineration centres to be delivered by 2035

- Colchester: 25,000 TDS
- Pyewipe: 25,000 TDS
- Whittingham: 25,000 TDS
- Gt. Billing: 50,000 TDS

The projects will provide the capacity required under land bank scenario 4 – 70% of sludge diverted away from agriculture.

Likely eligible for competition

Bioresources are currently excluded from DPC, however these solutions may be sufficiently sized (individually or in combination) to pursue a market delivery model.

Pass

Colchester
Size test

Pass

Pyewipe
Size test

Pass

Whittingham
Size test

Pass

Gt. Billing
Size test

See next slide for individual breakdown

Initial discreteness considerations

Criterion	Provisional assessment
Stakeholder interactions and statutory obligations	<ul style="list-style-type: none"> ▪ Local authorities and stakeholders can pose a challenge to delivery – i.e. challenging import of sludge. ▪ Defra is due to review its farming rules in 2025, which may change the requirements placed on Appointees.
Interactions with the network	<ul style="list-style-type: none"> ▪ The principal point of interaction would be at the transport facilities, where cake would be collected. Network interactions are otherwise limited.
Contributions to supply/capacity and ability to specify outputs	<ul style="list-style-type: none"> ▪ Bio assets do not impact supply / demand ▪ However, specification of outputs would need full consideration, e.g. whether AWS could commit to certain levels of sludge provided for treatment.
Asset and operational failures	<ul style="list-style-type: none"> ▪ Asset and operational failures could place AWS in violation its obligations if it were unable to properly dispose of sludge.

Other key considerations

As bioresources are currently excluded from DPC, it would be necessary to either pursue a regulatory change from Ofwat which allowed bioresources through this model, or to pursue an alternative market route for the delivery of these projects, e.g. a non-DPC DBFOM model. It would be key to consider the commercial model that would underpin such an arrangement.

* Average across civils and mech/elec components.

CONFIDENTIAL

Potential for scope reduction if company preferred plan is followed instead of current statutory plan.

Sludge treatment – individual projects

Colchester

£174m

Capex

£1.68m

Opex (annual)

27 years*

Asset life

£219.4m

Whole life totex

Pass

Size test

Pyewipe

£180m

Capex

£1.68m

Opex (annual)

27 years*

Asset life

£225.4m

Whole life totex

Pass

Size test

Whittingham

£176m

Capex

£1.68m

Opex (annual)

27 years*

Asset life

£221.4m

Whole life totex

Pass

Size test

Gt. Billing

£309m

Capex

£8.4m

Opex (annual)

27 years*

Asset life

£399.7m

Whole life totex

Pass

Size test

Other key considerations

- AWS is working with a company called BMA to model bioresources networks for several WASCs and consider how a bio solution might be logically co-ordinated between companies.
- There is a national bioresources strategy, led by Atkins. This is working to remove blockers in the bio market, both through the increasing commercialisation and scalability of the technology, and through the adaptation of the existing regulatory framework to better suit bio.

* Average across civils and mech/elec components.